The care and use of animals in ACT schools
Implementation guidelines 2009
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Foreword

These implementation guidelines explain what schools need to do to satisfy the requirements of the *Australian code of practice for the care and use of animals for scientific purposes 7th Education 2004*, the *Animal Welfare Act 1992* and the *Animal Welfare Regulation 2001* including current amendments. They apply to all schools within the ACT that use animals for teaching and research purposes. The *Australian code of practice for the care and use of animals for scientific purposes 7th Education 2004* (scientific purposes includes teaching) imposes strict requirements on schools wishing to use animals for teaching. By following the advice provided in these guidelines, teachers lawfully use animals in pursuit of educational objectives.

Students attending our schools bring to the classroom a diverse range of experiences, expectations and attitudes towards animals. By providing opportunities to explore a range of views about the appropriate care of animals and their uses by people in a safe and supported environment, schools will:

- satisfy one of the requirements in the *Australian code of practice for the care and use of animals for scientific purposes 7th Education 2004* – the provision of educational programs
- address essential content from the Essential Learning Achievement 3, *The student responds with integrity and regard for others.*

As the most common use of animals in schools is for teaching and demonstration rather than research, schools have been recognised as a special case under the *Australian code of practice for the care and use of animals for scientific purposes 7th Education 2004*. This means that the Animal Ethics Committee of the ACT is able to provide teachers with a list of approved activities that may be undertaken. As a consequence of this privilege, schools need to ensure that all teachers have access to the information they need to maintain the welfare of the animals at the level of current approved practices.

This publication has been adapted from the NSW Schools Animal Care and Ethics Committee’s (SACEC) second edition of *Animals in Schools: Animal welfare guidelines for teachers*. The SACECs second edition is a cooperative venture involving officers and schools from all three school
sectors and TAFE, officers from the Animal Welfare Unit within NSW Agriculture and members of the Animal Research Review Panel.

The ACT Schools Animal Ethics Committee wishes to thank SACEC for permission to use the NSW Animals in Schools: Animal welfare guidelines for teachers as the basis for the Care and Use of Animals in ACT Schools: Implementation Guidelines Preschool to Year 12.
Acknowledgements

This publication has been adapted from the NSW Schools Animal Care and Ethics Committee’s (SACEC) second edition of *Animals in Schools: Animal welfare guidelines for teachers*. The preparation of the original document has involved the work of teachers, veterinarians, staff of NSW Agriculture, members of the NSW Schools Animal Care and Ethics Committee and other interested and concerned people.

The adaptation of this document further involved the work of teachers from the ACT Department of Education and Training and members of the ACT Schools Animal Ethics Committee.

For further information contact:

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How to use these Guidelines

Care and Use of Animals in ACT Schools Implementation Guidelines Preschool to year 12 is organised into two parts:

**Part A** guides teachers in decision-making about the use of animals.

**Part B** provides species-specific notes about approved activities and resources.

These guidelines were based on the work of NSW Schools Animal Care and Ethics Committee (referred to as the SACEC) and adapted, with permission from SACEC, to ensure compliance with all legislation governing implementation within the ACT. Words, names and references that are considered of particular relevance to the understanding of these guidelines are listed in the glossary at the end of Part A. When these glossary references are presented in the text for the first time, they appear in bold type, along with any appropriate abbreviation in brackets.

The guidelines are to be used as a whole. They include a list of approved activities for which **animals** may be used (Part A). The guidelines also specify the manner in which each approved activity is to be undertaken so that the welfare of the animals involved is protected. There are five categories of approved activities that may be undertaken in schools.

There is also a list of activities that are prohibited in schools (see page 15). Teachers and students must not use animals in any other ways for teaching or research without the prior written approval of the ACT **Schools Animal Ethics Committee (SAEC)**. The Committee will consider only applications submitted to it on the designated application forms (see Appendices 3 to 8).

These guidelines are not fixed in time. Alterations may become necessary as changes are made to relevant acts, codes and regulations. It is the responsibility of teachers to ensure they keep up-to-date with current legislation and that their practices are in accordance with that legislation.

Teachers using animals in schools are also expected to keep abreast of the ongoing ethical debate and community expectations about the use of animals in research and teaching that may give rise to changes in legislation. Any
suggestions for improvements or alterations are welcomed by the ACT SAEC (see page 3 for contact details).

Individual and societal values regarding animals will at anytime be varied. When teaching about animals, working with animals (dead or alive), teachers should be mindful of both animal and human sensitivities and accordingly carry out their tasks with circumspection and respect for both.

Animals used in teaching and research in the ACT are protected by the Animal Welfare Act 1992 (the Act). The Act requires that their use is justified, responsible, humane and considerate of the animals’ needs.

The Act provides for a system of accreditation, licensing and authorisation for organisations and individuals wishing to use animals for scientific purposes, which includes teaching. The system includes schools and teachers.

In essence it is illegal for any person to use animals for scientific purposes unless they have the prior approval of an Animal Ethics Committee (AEC). These guidelines explain to teachers how approval to use animals for teaching or research may be obtained. The Act also places the responsibility for the care and welfare of animals in schools upon the teachers involved with their use.

Institutions are required by the Act to establish animal ethics committees to ensure compliance with the legislation. The ACT SAEC has been established by the ACT Department of Education and Training (the Department) and is accountable to the Department, the Catholic Education Office (CEO) and the Association of Independent Schools (AIS) of the ACT on behalf of its participating schools, for monitoring the use of animals for teaching and research purposes in their schools.

The school systems are also accountable to the ACT Animal Welfare Authority for the operation of the ACT SAEC. The Act and Animal Welfare Regulation 2001 (the Regulation) and the Australian code of practice for the care and use of animals for scientific purposes 7th Education 2004 (Australian Code) describe the practices that are required to ensure the humane care of animals used for teaching and research. The keeping and use of animals in schools must be in accord with the provisions of the Australian Code and all relevant provisions of Commonwealth and ACT legislation.

A list of the most relevant legislation, model codes and regulations is included on page 41.
Rationale

The use of animals in ACT schools is governed primarily by three pieces of legislation. They are the:

- *Animal Welfare Act 1992* (the Act)
- *Animal Welfare Regulation 2001* (the Regulation)

This legislation was introduced to protect the welfare of vertebrate animals used in teaching and research by ensuring that their use is justified, humane and considerate of the animals’ needs.

The legislation has evolved in response to the attitudes of the Australian community and its concern for the welfare of animals in general and particularly the use of animals in teaching and research. Underpinning these attitudes is the notion that vertebrate species can experience pain and suffering and that there is a moral duty to minimise the harm to any animal.

Teachers have many responsibilities placed upon them. One of these responsibilities is to assist students to develop a respect for animals and to learn how to care for animals in a responsible and ethical manner.

These guidelines apply to all public schools, all CEO affiliated schools and independent schools. They provide interpretations of the Act, the Regulation and the Australian Code to help teachers in those schools meet the requirements of the legislation.
Deciding whether the use of animals is justified

The ACT Schools Animal Ethics Committee (SAEC) has the responsibility to determine what activities involving the use of animals are permissible in schools. In determining permitted activities, the ACT SAEC Committee is guided by the Act, its related Regulation and the Australian Code. The Act also requires teachers to go through a process of deciding whether the use of animals is justified. This applies both to the conduct of procedures that are pre-approved by the ACT SAEC and described in these guidelines (see Species-specific notes), as well as to procedures which require an application to the ACT SAEC (see the flow chart on page 10 for a summary of this decision-making process).

To assist teachers, the ACT SAEC has developed a set of approved activities or procedures for which the use of animals is permitted, provided that:

- the educational objectives (and related outcomes) to be achieved are selected from the four listed below
- the decision-making process described in the flow chart has been followed
- the activity or procedure is to be done as described in these guidelines.

The requirement to consider alternatives to the use of animals is an important first consideration. The weighting given to this consideration increases as the potential (and real) impact on the animal increases.

The categories of approved activities described in these guidelines are based on an assessment of the risk of harm to the animal. Category 1 activities are assessed as being of very low risk to the animals, Category 5 activities are assessed as being high risk. If the Category 5 procedures are not conducted skilfully or an accident occurs, the risk to the animals is considerable.

The higher the category number, the greater is the need to consider alternatives, the greater are the skill requirements of the teacher and the greater the quality requirement of the preparatory work by the student.
Educational objectives

The Australian Code states that animals may be used for teaching only when there are no suitable alternatives available for achieving the educational objectives.

School communities determine educational objectives in response to the following:

- Board of Senior Secondary Studies requirements
- Every chance to learn curriculum framework for ACT schools preschool to year 10
- Government and system priorities
- Community needs
- Student learning needs.

In the context of the above, the following objectives relating to animals may be used in the school’s curriculum:

Objective 1: Developing students’ skills in relation to responsible animal care and management

It is essential that students learn that responsible animal care and management involves knowledge of the needs of animals (physical and behavioural). The course and stage of learning will determine the type of animal to be used and the level of practical involvement of students.

Where the course of study requires an animal be subjected to procedures causing considerable pain and distress (such as tail docking or castration of lambs), the teacher must ensure students receive the appropriate amount and type of training before attempting the procedure. It is also the teacher’s responsibility to obtain written approval from the ACT SAEC before students carry out procedures.

Teachers should be aware that, in developing students’ skills in relation to responsible animal care and management, they are role models and should at all times apply the principles of best practice.

Objective 2: Developing students’ skills in observing animals to enhance their understanding of the behavioural characteristics of species

To train students to observe, a variety of sources may be used. These sources may include photos and videos (secondary sources) as well as the students’ own observations of live animals (primary sources).

Objective 3: Developing students’ skills of investigation where the purpose is to improve methods of animal management or to improve production

This arises in the context of school curriculum in agriculture and science. Students usually replicate previous experiments (e.g. enriching the animal’s environment, such as a budgerigar’s cage or guinea pig’s pen, food palatability trials, comparisons of egg production between free range and barn housed hens).
Where these replications are known to have low impact on the animal (category 2 or 3 approved activities), they are included in the list of approved activities in the appropriate category.

**Objective 4: Assisting students to develop empathy with and respect for animals**

Given that our relationship with animals is an important aspect of the human condition, schools should not avoid helping students to build shared knowledge and understanding about them. Thus students should be given opportunities in the school context to learn about the diversity and appropriateness of the range of relationships between animals and humans.

Students from a great diversity of backgrounds and experiences attend schools throughout the Territory. While schools must respect the diversity of attitudes that this brings they must also ensure that students develop empathy with and respect for animals.

There is no absolutely certain way to ensure that students acquire desirable attitudes towards animals but research has shown that teachers are powerful role models. This means that the way teachers work with animals and the attitudes that are apparent in the teachers’ care and handling of animals will strongly influence the attitudes students develop toward animals.

**Alternatives and the three Rs**

Whenever a decision about using animals for teaching activities is made, it is essential that the 3Rs filter is applied to all activities. The “3Rs filter” is a term to flag that consideration should be given to:

- the **replacement** of animals with other methods
- the **reduction** in the number of animals used
- the **refinement** of techniques used to reduce the impact on animals.

An explanation of the “3Rs filter” is provided on page 21 of these guidelines. The following flow chart indicates when it should be applied.

Refer to the resource lists on the Every chance to learn curriculum framework for ACT schools preschool to year 10 section of the ACT Department of Education and Training website (www.det.act) for alternatives to the use of animals.
Table 1: Decision making flow chart

Can the related outcomes be achieved without using animals? (Ensure you have used the 3R’s filter to answer this question)

YES

Use the non-animal alternative

NO

Is what you plan an approved activity in the Guidelines?

YES

Are the related outcomes possible without using animals? (Ensure you have used the 3R’s filter to answer this question)

NO

Is the planned activity justified? (see pages 7-9)

YES

Are you applying the 3Rs to ensure that the impact of the activity on the animal is minimised?

NO

Choose another activity that does not require an animal to be used

NO

Have you checked that the source of the animals, their housing, monitoring, disposal and records are in accordance with the guidelines for the particular species to be used?

YES

Perform the activity as described in the guidelines or as approved by the SAEC.

NO

Has the SAEC provided written approval before commencement of the activity? Does this approval have conditions applied to it?

YES

Have the students been appropriately instructed and will they be supervised?

NO

Did the activity achieve the intended outcomes? Would you consider doing it again or would you use an alternative?

* Ensure that you allow the ACT Animal Ethics Committee (SEAC) 3 months to respond.
† AWLO is the animal welfare liaison officer for your school.
Categories of activities

These guidelines provide five categories of approved activities involving animals. The guidelines specify who can use the animal and in what way, so that the welfare of the animal is protected.

Activities that are not listed in these categories of animal use, or that are different from the activities as they appear in these guidelines, must not be carried out without prior written approval from the ACT SAEC. The application must be submitted on the designated application form (see Appendices 6 and 7).

A more in depth description of the approved activities can be found in the relevant species notes in Part B.

**Category 1 activities** are permitted by all students and teachers with due care for the animal’s welfare.

**Category 2 activities** may be conducted by students who have received appropriate instruction before commencing the activity.

**Category 3 activities** require a higher level of student skill than Category 2 activities before they are attempted. They must be justified by the School Board approved curriculum for that course or a Board of Senior Secondary Studies (BSSS) approved course. These activities require the formal approval of the AWLO within the school.

**Categories 4 and 5** must be justified by the BSSS syllabus. All these activities have the potential to cause distress. Some of these activities are painful to the animal, even when done properly. If done incorrectly, the pain and distress are very significant.*

**Category 4 activities** may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on the Form D Appendix 6. The teacher must have a high level of skill attained by either specialised training or relevant experience that has led to the level of competency.

**Category 5 activities** may be undertaken by students only if prior written approval has been obtained from the ACT SAEC. The teacher must be accredited by a recognised authority or have demonstrated equivalent competency.

*Some agricultural procedures are accepted by the general community despite the pain and/or distress they cause to the animals. The justification for teaching these relates to vocational training.
In general the only justification for allowing students to participate in category 4 and 5 activities is that the student is completing a competency based course leading to the attainment of a level of skill that can be recognised by a formal qualification.

Before demonstrating to students a Category 5 activity, the teacher must have written certification, including an identity certificate, from the ACT SAEC (a three-yearly certification). Certification should be requested by completing the Form E Appendix 7.

There is also a list of activities that are not permitted to be carried out by teachers or students, in the context of educational programs associated with the school, under any circumstances (see page 15).

Table 2: Categories of activities

<table>
<thead>
<tr>
<th>Category*</th>
<th>Risk to animals</th>
<th>Educational justification</th>
<th>Conditions which apply to students</th>
<th>Conditions which apply to the teacher or demonstrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Very low impact.</td>
<td>Provides positive experiences involving animals.</td>
<td>Any student may carry out these activities.</td>
<td>Teacher discretion, Skills and knowledge appropriate to the activity.</td>
</tr>
<tr>
<td>2</td>
<td>• Low impact.</td>
<td>Students are following a course or program in the school curriculum.</td>
<td>Background and level of maturity taken into account and suitable instructions given before activity.</td>
<td>Skills and knowledge appropriate to the activity.</td>
</tr>
<tr>
<td>3</td>
<td>• Moderate impact.</td>
<td>Justified by the School Board approved curriculum for that course or a BSSS approved course.</td>
<td>Students are given appropriate instructions and training.</td>
<td>Skills, knowledge and training appropriate to the activity. ACT SAEC needs to approve.</td>
</tr>
<tr>
<td>4</td>
<td>• High impact.</td>
<td>Justified by a BSSS approved course. Activity appropriate to meet course needs.</td>
<td>Students are given specialised instructions and training leading to competency. May be undertaken by students only if written approval from ACT SAEC has been obtained.</td>
<td>Specialised training or expert competency.</td>
</tr>
<tr>
<td>5</td>
<td>• Highly specialised techniques.</td>
<td>Justified by a BSSS approved course. Activity appropriate to meet course needs.</td>
<td>Students are given specialised instructions and training leading to competency. May be undertaken by students only if written approval from ACT SAEC has been obtained.</td>
<td>Accreditation by recognised authority or demonstrated equivalent competency. Teacher must gain written certification from the ACT SAEC every three years in order to demonstrate activities in this category.</td>
</tr>
</tbody>
</table>

* The greater the potential impact on the animal, the greater the educational justification and expertise required of teachers and students.
### Table 3: Description of Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Category (See page 11)</th>
<th>Objectives (See pages 8-9)</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Very low impact activities involving animals.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Observation of animal behaviour</td>
<td>1</td>
<td>02, 04</td>
<td>Teacher</td>
</tr>
<tr>
<td>• Observation of pets under the owner’s control</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Excursions to observe animals in their natural surroundings or to zoos</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td>and other registered wildlife parks</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Excursions to farms for observation of animal behaviour and</td>
<td>1</td>
<td></td>
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<tr>
<td>husbandry activities appropriate to the age, prior experience and</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>maturity of the students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B. Low impact activities involving animals provided appropriate</strong></td>
<td>2</td>
<td>01-04</td>
<td>Teacher</td>
</tr>
<tr>
<td>instruction is given prior to undertaking the activity and there is</td>
<td></td>
<td></td>
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<tr>
<td>appropriate control by a responsible person or the owner of the animal.</td>
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<tr>
<td>• Mustering, drafting (in crush or bailhead), capture, restraint and</td>
<td>2</td>
<td>01-04</td>
<td>Teacher</td>
</tr>
<tr>
<td>handling of non-free-living domesticated animals (grooming or holding</td>
<td></td>
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<tr>
<td>an animal, collecting a milk sample, non-invasive measurements such as</td>
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<tr>
<td>those described below, leading or riding an appropriately trained animal).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Observations of particular animal behaviours e.g. oestrus, parturition</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>• School performance by outside agencies that have animals as part of</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>their exhibits.</td>
<td></td>
<td></td>
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<tr>
<td>• Animal welfare organisations bringing animals to school (such as Delta Society programs, RSPCA or WIRES)</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>• Breeding of mice or other appropriate animal in the classroom (see</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeding of animals on page 24)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The appropriate care of classroom pets.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C. Non-invasive measurement of:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. body weight</td>
<td>2</td>
<td>01-04</td>
<td>Teacher</td>
</tr>
<tr>
<td>2. body condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- visual assessment</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>- condition scoring</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>- ultrasound</td>
<td>3</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>3. growth</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>4. body proportions</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>5. pulse or blood flow</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>6. respiration</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>7. skin temperature (non-invasive)</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>8. age by dentition</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>9. scrotum and testicles (palpation)</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td><strong>D. Measurement of mild dietary effects (provided the normal nutritional needs for the life stage of the animals are met):</strong></td>
<td>3</td>
<td>01-04</td>
<td>AWLO*</td>
</tr>
<tr>
<td>1. high/normal protein</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. high/normal energy</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. high/normal fat</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. palatability</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E. Behaviour activities:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. familiarisation</td>
<td>2</td>
<td>01, 04</td>
<td>Teacher</td>
</tr>
<tr>
<td>2. taming/gentling</td>
<td>3</td>
<td></td>
<td>AWLO*</td>
</tr>
<tr>
<td>3. training for competition or showing</td>
<td>3</td>
<td></td>
<td>AWLO*</td>
</tr>
<tr>
<td>4. tethering animals</td>
<td>3</td>
<td></td>
<td>AWLO*</td>
</tr>
<tr>
<td>5. breaking-in cattle or horses</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
</tbody>
</table>
### Table 3: Description of Activities continued

<table>
<thead>
<tr>
<th>Activity</th>
<th>Category (See page 11)</th>
<th>Objectives (See pages 8-9)</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F. Collection of samples #:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. wool</td>
<td>2</td>
<td>01-04</td>
<td>Teacher</td>
</tr>
<tr>
<td>2. milk</td>
<td>2</td>
<td>01-04</td>
<td>Teacher</td>
</tr>
<tr>
<td>3. faeces &amp; urine (non-invasive)</td>
<td>2</td>
<td>03</td>
<td>ACTSAEC</td>
</tr>
<tr>
<td>4. faeces (invasive)</td>
<td>5</td>
<td>03</td>
<td>ACTSAEC</td>
</tr>
<tr>
<td>5. saliva</td>
<td>3</td>
<td>03</td>
<td>AWLO*</td>
</tr>
<tr>
<td>6. ruminal fluid</td>
<td>5</td>
<td>03</td>
<td>ACTSAEC</td>
</tr>
<tr>
<td>7. blood</td>
<td>5</td>
<td>03</td>
<td>ACTSAEC</td>
</tr>
<tr>
<td>8. measurement of body temperature (invasive)</td>
<td>3</td>
<td>03</td>
<td>AWLO*</td>
</tr>
</tbody>
</table>

| **G. Standard husbandry activities:** | | | |
| 1. administering treatments | | | |
| water | 2 | 01-04 | Teacher |
| topical | 2 | For activities up to category 4 | AWLO* |
| - udder | 3 | For activities up to category 4 | AWLO* |
| - back line | 3 | For activities up to category 4 | AWLO* |
| - spray | 3 | For activities up to category 4 | AWLO* |
| - dip | 3 | ACT SAEC |
| oral | 3 | AWLO* |
| - drench | 3 | AWLO* |
| - capsules | 3 | AWLO* |
| - winged capsules | 4 | ACT SAEC |
| injection | 3 | AWLO* |
| - intraruminal | 3 | AWLO* |
| - subcutaneous | 3 | AWLO* |
| - intramuscular | 3 | AWLO* |
| - intravenous | 4 | ACT SAEC |
| - intrauterine pessaries | 4 | ACT SAEC |
| - udder | 3 | AWLO* |
| 2. coat care and grooming | 2 | Teacher |
| 3. coat clipping | 3 | AWLO* |
| 4. ear marking/tagging of livestock | 3 | AWLO* |
| 5. tattoo application | 3 | AWLO* |
| 6. hoof paring: sheep and goats | 3 | AWLO* |
| 7. hoof trimming: cattle | 3 | AWLO* |
| 8. shearing of sheep and goats | 3 | AWLO* |
| 9. shearing of alpacas and llamas | 4 | ACT SAEC |
| 10. dagging | 3 | AWLO* |
| 11. crutching | 4 | ACT SAEC |
| 12. milking | 3 | AWLO* |
| 13. putting nose clips on cattle | 3 | AWLO* |
| 14. nose ringing | 5 | 01 | ACT SAEC |
| 15. loading and unloading animals onto transporters | 3 | AWLO* |
| 16. showing animals at school and away | 3 | AWLO* |
| 17. foot bathing | 3 | AWLO* |
| 18. fire branding horns of stud sheep | 4 | ACT SAEC |
| 19. fire branding of cattle and horses | 4 | ACT SAEC |
| 20. freeze branding of cattle and horses | 4 | ACT SAEC |
| 21. flystrike treatment | 3 | AWLO* |
| 22. jetting animals | 3 | AWLO* |
| 23. using sire harnesses | 3 | AWLO* |
| 24. restraining with ropes | 3 | AWLO* |
Table 3: Description of Activities  

<table>
<thead>
<tr>
<th>Activity</th>
<th>Category (See page 11)</th>
<th>Objectives (See pages 8-9)</th>
<th>Approved by</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. castration of immature livestock**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- lambs</td>
<td></td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- elastrator</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- knife</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- emasculator</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- calves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- elastrator (under 6 weeks)</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- knife</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- emasculator</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>26. tail docking lambs†</td>
<td></td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- elastrator</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- knife</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- gas detailer</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>27. tail docking piglets</td>
<td></td>
<td>01-04</td>
<td></td>
</tr>
<tr>
<td>- knife</td>
<td>4</td>
<td>For activities</td>
<td></td>
</tr>
<tr>
<td>28. tooth trimming/removal in piglets</td>
<td></td>
<td>up to category 4</td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>29. beak trimming</td>
<td></td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>30. tail tagging</td>
<td>2</td>
<td></td>
<td>Teacher</td>
</tr>
<tr>
<td>31. artificial insemination</td>
<td>5</td>
<td>03</td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>- external ultrasound</td>
<td>3</td>
<td></td>
<td>OWLA*</td>
</tr>
<tr>
<td>- rectal</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>32. semen collection</td>
<td>5</td>
<td>03</td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>33. pregnancy detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- external ultrasound</td>
<td>3</td>
<td></td>
<td>OWLA*</td>
</tr>
<tr>
<td>- rectal</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>34. oestrus synchronisation</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>35. microchip tagging</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>36. horn tipping</td>
<td>3</td>
<td></td>
<td>OWLA*</td>
</tr>
<tr>
<td>37. dehorning cattle under six months**</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>38. detusking boars</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>39. debudding calves and kids†</td>
<td>4</td>
<td></td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>40. mulesing of young sheep†</td>
<td>5</td>
<td>01</td>
<td>ACT SAEC</td>
</tr>
<tr>
<td>41. slaughter/euthanasia of stock (see page 30)</td>
<td>5</td>
<td>01</td>
<td>ACT SAEC</td>
</tr>
</tbody>
</table>

H. Prohibited activities

**PROHIBITED ACTIVITIES**—should not be done at school under any circumstances

The activities set out below may not be carried out by students or demonstrated to them:

1. performance of surgical procedures without anaesthesia, other than in the conduct of normal animal husbandry operations.
2. induction of infectious diseases.
3. nutritional deficiency.
4. administration of drugs or chemicals other than those recommended for a particular therapeutic purpose.
5. administration of ionising-radiation or other biohazardous material.
6. activities, other than approved activities, giving rise to distress.
7. imprinting (e.g. simulated parenting, see notes page 29).
8. use of animals as prizes for raffles.
9. breeding animals solely for dissection.

* The within-school Animal Welfare Liaison Officer (AWLO) must approve these activities (see page 18 for role statement)

† Sample = a small part of a specimen

** POCTAA describes the legal ages for some animal husbandry practices for particular species. These are as follows:

Castration: pigs- less than 2 months, cattle, sheep, goats- less than 6 months
Tail Docking: sheep- less than 6 months
Mulesing: sheep- less than 12 months
Dehorning: goats- less than 1 month, sheep- less than 12 months
Category 5 activities

Collection of ruminal fluid
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, qualified livestock research officer
- description of any courses completed that provided training in this activity.

Collection of blood sample
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, qualified livestock research officer
- description of any courses completed that provided training in this activity.

Collection of faeces (invasive)
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, qualified livestock research officer
- description of any courses completed that provided training in this activity.

Artificial insemination
- TAFE, university accreditation or equivalent by a registered training organisation (attach photocopy)

Semen collection
- TAFE, university accreditation or equivalent by a registered training organisation (attach photocopy)

Mulesing of young sheep
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, experienced contractor, experienced farmer
- description of any courses completed that provided training in this activity.

Nose ringing of cattle
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, experienced contractor, experienced farmer
- description of any courses completed that provided training in this activity.

Slaughter or euthanasia of stock
- description of how often the applicant has completed this activity, over what time period, plus verification of competency by an experienced operator, e.g. local vet, experienced farmer
- description of any courses completed that provided training in this activity.
Roles and responsibilities

ACT Schools Animal Ethics committee

The ACT SAEC supervises the use of animals in teaching or research wherever conducted in the ACT. The ACT SAEC was specifically set up to supervise the use of animals in public and non-government schools. Its role is:

• to interpret the Animal Welfare Act
• to prepare and publish a list of approved activities involving the use of animals
• to consider applications for Category 4 and 5 activities and those activities which are not listed in the guidelines
• to monitor the use of animals in schools to ensure that it complies with the relevant legislation
• to liaise with teachers and system representatives in matters covered in the terms of reference
• to investigate complaints involving animals
• to report to the appropriate school sector authorities
• to perform other functions as described in its terms of reference.

School sectors

Under Section 26 of the Act, every school using animals outside Schedule 2 of The Animal Welfare Regulation 2001 must hold a current, completed Animal Research Authority to use animals for scientific or teaching purposes.

The Department and the CEO apply for accreditation on behalf of schools which are part of their systems. All other schools must apply for accreditation to the Animal Welfare Unit Licensing Clerk (see page 45 Appendix 2 for contact details).

Normal accreditation is for a period of three years.

Sectors are responsible for issuing to each school an annual Animal Research Authorisation (Schools), for ensuring that grievance procedures are in place to resolve concerns by members of the ACT SAEC or teachers who are concerned about ACT SAEC decisions. (See Appendix 1 page 44).
The systems are responsible for providing adequate resources to enable the ACT SAEC to do its job. Under School based management, schools must ensure adequate resources are made available to provide appropriate standards of care for animals in their charge.

The school

Once the school has a current, completed Animal Research Authorisation (Schools), for the purpose of teaching it then has the responsibility to ensure the provision of:

- adequate resources and facilities for the appropriate care and welfare of the animals
- adequate security to ensure animal safety, including during weekends and school holidays
- a plan for handling emergency situations, including bushfire, flood, drought and vandalism, based on a current risk assessment related to the animals in the school’s care
- a procedure that is consistent with the ACT SAEC grievance procedures to resolve any grievances relating to the care and use of animals in schools.

The Principal

The Principal is responsible for:

- ensuring compliance with all relevant legislation and these guidelines
- ensuring that all relevant documentation under the Act is maintained and available for inspection by duly authorised people
- appointing an AWLO
- ensuring that adequate resources are provided to maintain in good repair the facilities for handling and holding animals and to ensure that the needs of animals can be met
- ensuring that the ACT SAEC is advised when animal-related incidents trigger the reporting provisions under the complaints resolution policy or other similar policy (see Appendix 1 page 44)
- resolving grievances regarding the use of animals in his or her school (see Appendix 1 page 44).

The Animal Welfare Liaison Officer (AWLO)

For each school there is to be an AWLO. The AWLO is to be appointed for the school by the Principal. The duties of the AWLO include:

- promoting awareness of the requirements of the Animal Research Act, other relevant legislation and these guidelines within the school
- monitoring school programs to ensure that activities included have ACT SAEC approval
• monitoring animal use to ensure compliance with the guidelines or terms of ACT SAEC approval

• ensuring that the school maintains appropriate records relating to the use of animals (see page 32)

• liaising with the ACT SAEC, other teachers approved by the principal to use animals in the school, and the Principal (in secondary schools)

• making submissions on behalf of teachers to the ACT SAEC for approval to conduct activities outside the guidelines or in Categories 4 and 5 of the guidelines

• promoting among teachers and students involved in the use of animals discussion of ethical issues and evolving community expectations about use of animals in research and teaching.

**The Teacher**

The teacher is responsible under the Act for the decision to use animals to achieve educational objectives. That decision should be made after working through the information provided in Table 1 (page 10). When animals are used, the teacher is responsible at all times for the care and use of the animals by:

• ensuring the care and use of animals is in accordance with relevant legislation (see page 41) and these guidelines

• having an understanding of the physical, behavioural and social needs of any species used

• instructing students in their legal responsibilities and providing them with opportunities to explore the ethical, social and scientific issues involved in the use of animals

• providing instruction and ensuring students have the appropriate level of competency to perform approved activities

• identifying and incorporating methods which may replace, reduce or refine animal use in schools

• obtaining written approval from the ACT SAEC prior to commencement for any activities using animals for which approval is required (see Appendices 6 and 7)

• maintaining appropriate records as required by the Australian Code and the AWLO (see page 32)

• carrying out close and competent supervision of students when they are engaged in tasks

• ensuring that parents have provided an appropriate written undertaking to care adequately for any animals that students may take home

• ensuring that appropriate monitoring of the animals occurs at all times (including during weekends and holidays)

• taking immediate steps to alleviate any pain, distress or illness in any animal

• disposing of animals appropriately.
The student

Students should be strongly encouraged to treat animals with respect and consider their welfare at all times. Students should be given opportunities to exercise responsible care and use of animals and should:

• care for and use animals in accordance with instructions from responsible teachers

• be responsible for obtaining a written undertaking from the parent or caregiver that the animal will be adequately cared for if the student takes the animal home

• comply with legislation relating to the care and use of animals for scientific purposes

• actively consider ethical and community values and expectations as well as legislative requirements for the care and use of animals.
Alternatives and the 3Rs

*The Principles of Humane Experimental Technique* (1959), prepared by William Russell and Rex Burch for the Universities Federation for Animal Welfare, emphasised the need for scientists to appraise their work based on the principle of the three Rs: the replacement of animals with other methods; the reduction in the number of animals used; and the refinement of techniques used to reduce the impact on animals.

These recommendations have been widely accepted as an important feature of modern research and teaching practices. The Australian Code includes these three important principles. These guidelines interpret the intention of the 3Rs as they apply to schools.

**Replace** means that techniques which substitute or complement the use of animals in scientific and teaching activities must be sought and used wherever possible.

The following are options for schools:

- the use of non-biological resources. Non-biological alternatives which can replace vertebrates include computer simulation and the use of audiovisual aids. The computer simulation of virtual reality has the potential to provide another alternative in the future.

- the use of organs from animals that have already been slaughtered for human consumption. These can be obtained from the butcher, supermarket, or fish market.

- the use of less sentient organisms. In some activities, it is possible to substitute less sentient life forms (e.g. invertebrates and micro-organisms) in experiments that might otherwise involve vertebrates. Organisms such as flatworms, earthworms, some molluscs, insects and crustaceans could be substituted for vertebrates when observation of organ systems is appropriate. Plants should also be considered as suitable alternatives.

The last two options provide an excellent opportunity to discuss with students the ethical and moral reasons for the use of non-human sentient organisms and organs from animals that have been slaughtered for food.
Reduce means a reduction in the numbers of animals used. Two options for implementing reduction are:

- the pooling of available resources, including the data derived from previous activities, so that the data being manipulated is from a larger group
- the use of appropriate statistical techniques.

While it is always important to reduce the numbers of animals used, it is also important to use sufficient numbers to have correct experimental design and hence gain meaningful results.

Too few animals may cause unnecessary stress on the individuals through excessive handling by students. Therefore, for example, in the case of broiler chickens (assuming housing, processing and disposal are no problem) a larger rather than a smaller number may produce less stress for the broilers.

Refine involves the modification of the design of the activity so as to minimise the adverse impact on the animals used. This should include using:

- up-to-date information regarding animal welfare and project design
- current information relating to housing and handling of animals (see Species-specific notes for more details)
- low-stress animal husbandry techniques
- observation of free living animals in school grounds, local parks, bushland and streams, visits to fauna parks, interactions with the young or elderly or non-human sentient animals.

Wherever possible the initial training of students in animal husbandry techniques should use non-animal models or simulation, e.g. simulation of lamb marking techniques using filled socks or stockings and pieces of leather.
Issues arising from using animals in schools

Acquisition of animals

Schools have to decide, before acquiring an animal, whether it is to be a production animal or pet or if it is to participate in approved activities, as described in the guidelines. The approved source of the animal will depend on that decision.

Schools may acquire animals as pets from traditional pet sources, so long as the animal’s purpose is for companionship and it is kept in a manner which simulates that of a home environment.

All animals, apart from livestock, owned by the school for use in teaching activities apart from Category 1 activities, must be obtained from a licenced animal supplier. Schools which breed animals for their own use as an educational activity may use these animals for other approved activities without the need for a supplier’s licence.

Schools wishing to supply animals, other than livestock as identified in the Act, to other schools, will require an animal supplier’s licence.

Free-living animals should not be captured and used for educational purposes unless relevant wildlife licences and ACT SAEC approval have been obtained. See the Species-specific notes.

The collecting of tadpoles for long-term observation of their lifecycle is not allowed unless the school is participating in the Frogwatch component of Streamwatch. They may be used only for Category 1 observation activities unless prior approval has been obtained from the ACT SAEC.

Animals as food for other animals

For a limited number of species, other animals are required as food. This does not mean meat eaten by dogs and cats, but refers to those animals that consume whole animals that have recently been killed.

Species that require this type of food are not well suited to being kept by a school. Students can have meaningful learning experiences with these animals through reptile shows and zoos.
If the situation does arise that animals are required as a food source, such as for reptiles, then the animal must be killed humanely before being given as food to another animal.

**Animal events**

Some schools allow their facilities to be used by other groups or organisations for events that are unrelated to the school’s educational program. These may be on a weekend or evening. Although they are not subject to the provisions of the Act, they will be subject to the provisions of other legislation, such as the *ACT Code of Practice for Short Term Display of Animals*.

Principals need to be aware, when considering applications to hold these events, that they could be open to challenge if the standard of care is questioned legally under the Act and the *Code of Practice for Short Term Display of Animals*.

**Breeding animals**

In some cases animals may be kept for breeding purposes. The breeding program must be carefully planned so that the number of animals bred is limited to the minimum number needed to achieve legitimate educational outcomes.

A major problem with animal breeding programs is the disposal of surplus animals. Options such as selling livestock through commercial outlets or to individuals should be investigated before the breeding program begins.

**If killing** (not as a food animal) **is the only disposal option, then the breeding program is not allowed** (see pages 30-31).

Close observation of animals engaged in mating, birth or care of young offspring can cause distress and may even result in severe consequences, such as abandonment or killing of the young. The extent of this distress will vary according to the species of animal, its individual temperament and the degree of interference from the observers. Please refer to Part B, Species-specific notes.

Teachers wishing to breed animals must:

- ensure that they are familiar with the characteristics of the species and temperament of the animals involved
- be experienced in breeding that species
- have considered the fate of the animals prior to breeding
- ensure that students develop skills in relation to responsible animal care and management.

Teachers must also be mindful of the numbers of students observing, their proximity to the animal and the time they spend observing.
Complaints and Grievances

A complaint is the registering of a concern about the use of animals in ways that apparently contravene the Act, the Regulations, the Australian Code or other relevant codes of practice.

A grievance occurs when the complainant is dissatisfied with the outcome of the investigation of the complaint.

Appendix 1 describes the procedure for resolving complaints or grievances that may occur in ACT public schools. For CEO and AIS schools please consult with the relevant system authority for the appropriate procedure.

In extraordinary circumstances the complaint may be passed straight to the ACT SAEC for investigation. See Appendix 1 for further explanation of the grievance procedure.

Disposal of animals

There is a number of options for disposing of animals that include the following:

- **Return to source:** Animals that have been obtained from farms, studs or other breeders could be returned to their original source. This option would depend on arrangements made before the animal had left its source, such as the maintenance of routine health care or other conditions mutually agreed upon. Many schools have arrangements like this regarding cattle, sheep and goats, allowing the students to compete in agricultural shows each year, but then returning the animals to their owners before the Christmas school holidays and term breaks.

- **Release to the wild:** Free-living animals should be released to the wild only on the advice of the relevant wildlife authority. Non-native, domesticated and cage-reared vertebrates of any kind must not be released to the wild.

- **Release of animals to students:** Before any animal is taken home by a student, written permission, as well as evidence from the parents that the animal will be cared for adequately and responsibly, must be obtained by the teacher. This means that both students and parents are aware of the needs of the animal and can provide a safe, secure environment for it. This applies to both long-term care as well as the temporary release of animals for care during weekends and school holidays.

- **Death:** Animals may die at school through illness, injury or old age. Any animal that dies at school needs to be disposed of in a way that is appropriate to the type of animal, the facilities of the school and the local ordinances.

The onus is on the school to determine the likely cause of death of any animal that dies unexpectedly. If an animal unexpectedly dies at school it may be appropriate to have a post mortem carried out by a qualified person to determine the cause of death. This must be carried out using the appropriate equipment and with care taken to prevent the transmission of any zoonotic diseases. Students’ sensitivities should be considered when dealing with the death of all school animals.
• **Sale:** Livestock may be sold to appropriate purchasers. If animals, other than livestock are to be sold for use in teaching or research, the supplying school must hold an animal supplier’s licence.

Animals are not considered to be appropriate objects for prizes or raffles.

**Dissection of animals**

Schools should first consider using videos, models, virtual dissection and prepared specimens from biological supply companies as appropriate alternatives.

If the teacher’s decision is to use animal material in order to teach dissection, students must be offered an alternative activity that allows them to achieve the same outcome.

No student can be compelled to undertake a dissection of a dead animal.

No live animals may be acquired or bred for the sole purpose of dissection. Animals that have been **euthanased** because of age or injury may be dissected. *(See Form B Approval to obtain euthanased rats from The John Curtin School of Medical Research at the Australian National University)*.

Where dissection is considered a necessary activity, schools should consider using the following:

• dead whole animals e.g. fish, crustaceans and molluscs that can be purchased readily from food outlets

• animal parts, e.g. sheep’s kidneys, hearts, lungs, livers, that can be purchased from the supermarket, butcher or abattoir

• whole dead chickens, purchased from the supermarket or butcher, which can be used for examining skeletal and muscle systems

• plant or other non-animal material, on which students may practise to develop dexterity and proficiency in using instruments.

**Emergencies and disasters**

Schools that keep animals must have a risk management plan to ensure the welfare of animals is safeguarded in the event of flood, fire, drought, storm damage and/or vandalism.

Schools must have an emergency plan that provides for easy access to a safe evacuation site and a safe, suitable method of transporting the animals.

Good relationships with nearby schools are advantageous. Schools are encouraged to establish a close working relationship with a local veterinarian competent in the relevant species and who can be relied upon for assistance in an emergency.

Schools should consult the State Emergency Services plan for dealing with animals in emergencies.

Refer to the section on **critical incidents** (pages 34-35). Some situations may activate that policy.
Excursions to sites where animals are kept or may be encountered

In the case of an excursion to visit or interact with animals, the teacher should be aware of appropriate standards and requirements relevant to the purpose of the visit. Students should be encouraged to discuss “best practice” in the light of their visit.

Students should not interfere with free-living animals, and teachers should be in a position to alert the proper authorities if any problem arises, such as the detection of a potentially dangerous animal (e.g. reptile) on school premises.

Exhibiting animals

Away from school

Many schools exhibit animals in agricultural shows. Schools exhibiting animals should be seen to embrace the concept of “best practice” in all their dealings with their own and other animals at the show. This should include the following:

• Discuss the whole process with the students before commencing.
• Animals should be selected and adequately prepared prior to the show.
• Facilities and care provided for show animals must conform to these guidelines and the relevant ACT codes of practice (see page 42).
• The transport of animals to and from shows must comply with the relevant ACT codes of practice (see page 42).
• A responsible person must be in constant attendance at the show to ensure the safety and welfare of the animals.

Some schools have participated in “hoof and hook” competitions. In these competitions, cattle and lambs are sold prior to slaughter, with the school gaining feedback about the animal’s performance as a carcass.

Students need to be made aware of the ultimate fate of the animal before they become involved in the rearing, training and preparation of the animals for the competition. Ethical issues involved in raising animals for the purpose of slaughter should be discussed. Teachers need to be aware that some students will become emotionally attached to the animals, and these students will need help in accepting the final outcome.

Schools should consider offering students an alternative experience in rearing and showing animals that does not have death as the end-point for the animal. Breed shows are an example.

At school

Animals kept at school as part of the school’s educational program may be made available for viewing by students of other schools, so long as that viewing complies with the guidelines for observation of normal behaviour.

Where the school wishes to allow interaction with the animals, the following guidelines apply:
• The resident and visiting teachers must ensure that students are given appropriate instructions in animal handling.

• Animals designated for handling must be selected for their gentle, calm demeanor and be conditioned for handling.

• The number of animals chosen for the activity should be consistent with the need to reduce the impact on individual animals and the severity of that impact.

• The decision to invite a visiting animal show is at the discretion of the school under School Based Management. Departmental policy requires that these visitors are licenced animal exhibitors.

**Familiarisation and adaption**

Animals that are accustomed to their environment and routines and are comfortable around people handling them are safer to keep for both teachers and students. The process of **familiarisation** also aims to reduce the animal’s fear and anxiety by gradually introducing new stimuli into the animal’s environment at such a rate as to avoid raising the animal’s level of stress.

The majority of animals that are kept at schools have undergone a process of familiarisation with humans and their environment. This results in animals that are at ease with humans, and often able to tolerate considerably more interaction and noise than would occur normally on a farm or in a domestic situation.

Animals that are born at the school generally become accustomed to the school environment quite easily. In contrast, animals that are brought into the school will, in general, need to undergo gradual familiarisation. Teachers should select stock that have the temperament suitable for this process and should be able to recognise signs associated with fear and anxiety.

The key components in familiarisation are time, patience and consistency. It is a process that cannot be rushed if it is to be successful.

**Gentling or taming animals**

In addition to familiarisation, animals can undergo “active learning”. This active learning involves teaching an animal to respond in certain ways to particular stimuli or situations, and is known as taming or **gentling**. It can be used to eliminate fractious behaviour in favour of more desirable traits, as well as teaching animals to lead and stand, coming into yards and a crush, and moving from one paddock to another.

**Handling of animals**

In general, animals that are kept in schools experience a considerable amount of handling and therefore need to be well adjusted. Any animal that does not adjust should not be held for longer than is necessary and should be disposed of appropriately as soon as practicable.

Animals must be handled only by persons who have had appropriate instruction and are competent in methods which avoid distress and do not cause injury to animals.
or humans. Students need to develop skills that allow them to handle animals safely. Teachers need to be good role models, encouraging their students to develop appropriate handling techniques.

Reward-based animal training methods should always be used in preference to coercive methods of training. Animals respond well to food rewards, and a good daily routine makes the management of animals easy, particularly when they are being moved.

To assist in the handling of animals, the school may need to obtain suitable handling equipment, such as sheep yards or a cattle crush.

**Homework using animals**

Where an educational activity is to be carried out at home using the family pet, the teacher is responsible for ensuring that no activity or procedure beyond Category 1 or 2 is required.

If a Category 2 activity is specified, then the teacher must ensure that:

- the student knows and understands what is to be done
- written approval of a parent or legal guardian for the activity to take place has been sighted
- the activity is evaluated by the student and the teacher to ensure that the educational outcomes have been achieved.

**Identification of animals**

Animals in schools must be able to be identified so they can be accurately tracked from acquisition to disposal. Suitable methods include a tattoo, a neckband, an individual tag, an electronic numbering device, a physical mark, or a label or marking attached to the cage, container, pen, yard or paddock in which the animals are kept.

The method of identification should be reliable and cause the least stress possible. The method of identification will depend on the species and source of the animal and the method of housing that is used for the animal.

Advice relating to suitable methods of identification will be provided in Part B, *Species-specific notes*.

Cats and dogs owned by the school must comply with the *Domestic Animals Act 2000* (see *Species-specific notes* and Territory and Municipal Services (TAMS) *Dog and Cat Laws* Fact Sheets, see page 41).

**‘Imprinting’**

This exercise has been used in the past to demonstrate a well-known early bonding event undertaken by young animals, particularly using ducklings and chickens. Imprinting exercises must not be carried out without the written approval of the ACT SAEC. These exercises have, in the past, presented significant animal welfare problems, including difficulties in finding suitable homes for the imprinted animals,
in weaning them from human dependency prior to their return to a herd or group, premature death, avoidable disease, malnutrition and social dysfunction.

The only 'imprinting' exercise that is now acceptable is that which may be considered an animal husbandry technique. This is known as gentling or familiarisation and was discussed earlier on page 29.

When gentling is carried out to create a bond between an animal and the human looking after it, the animal benefits in the longer term. This occurs where a female animal that is already comfortable with humans allows a person to gentle, stroke and handle her offspring in the first hours after birth. In this process, the offspring accepts the human as part of its herd and hence forms a bond with the human. This exercise requires a great deal of time and effort by the human. This is not an exercise that involves a number of people; the familiarisation is carried out by an individual with an individual newborn animal.

This technique, once learnt, may be of benefit to horse, sheep, goat and cattle handlers, where the newborn animals are to be used for showing. It eliminates the need to 'break' the animal.

**Intensive animal management**

Animals kept under intensive conditions may experience higher risks to their health. The Department does not condone the use of intensive forms of agriculture. Permission must be obtained from the SAEC to raise animals in intensive circumstances.


Other such operations must comply with the conditions specified in the publications cited on pages 41-42.

**Killing of animals**

There are different reasons why animals may be killed. Many animals are killed as a food source for humans and this is the basis of many agricultural enterprises. In other instances animals used in agriculture may be killed because of culling, disease control measures, illness, injury, old age, or when they reach the end of their productive life.

It is essential that teachers discuss with students the ethics and responsibilities that humans have in both the life and death of animals.

Any animals that are slaughtered for food and then sold must be slaughtered and processed by an approved facility. Schools may not slaughter animals and then sell them as food. This includes poultry.

Another example where it may be justified to kill an animal at school arises if it is cruel to keep the animal alive. If that situation arises, killing may be performed only by persons competent in a recognised and approved method. There are preferred ways of killing particular species, and the most acceptable means should be used.
If there is not a person who has the appropriate skill, or the preferred method is unknown, then a veterinarian should be called.

Whatever the circumstances, the procedure used for killing an animal must avoid distress, be reliable, and produce rapid loss of consciousness without pain until death occurs. The procedure should minimise any impact on non-target animals. Where possible, the animal must be unaware of danger before being killed.

There must be no disposal of the carcasses until death is established. The means of disposal of the carcass will depend on the species of animal. Small animals, (smaller than a chicken), may be wrapped in newspaper and a plastic bag and disposed through standard waste collection. For animals larger than a domestic cat, disposal through the Animal Waste Facilities Management at Mugga Lane tip is appropriate, or contact Domestic Animals Services for assistance on 13 22 81.

When fertilised eggs are used, the method of disposal must ensure the death of the embryo. The holding of fertilised eggs over 10 days with the intention of disposing of them prior to hatching is not permitted.

Except for the above, animals should not be killed in schools.

Livestock

The supervising teacher is responsible for ensuring that the appropriate housing, nutritional, health and behavioural needs are met for livestock (see Species specific notes).

Careful consideration is needed when animals are kept at schools over long periods. Issues may include:

- the high cost of hand-feeding large animals over long periods of time, particularly where the pressure on good quality pasture is increased as stocking rates rise because of reproduction
- animals that are no longer required by the school and need to be disposed of in an appropriate manner; animals to be slaughtered for human food must be processed in accordance with the current Meat Industry Act and health regulations
- the increased risk of disease and parasite infestation when animals are kept in intensive conditions
- the security of animals (see below).

Maintaining a stud is seen by the ACT SAEC to be within guidelines, as long as the animals are kept in appropriate numbers for the species and the facilities of the school.

Ownership issues

Animals used in schools may be owned by the school, a teacher or administrator, a student, a parent, a community person or by an organisation. In general the owner is responsible for the welfare of the animal unless that has been delegated.
Animal owned by the school. The AWLO is generally responsible for monitoring the use and welfare of all animals in the school. The teacher using the animals is responsible for their care, health, needs and welfare at all times, from acquisition to disposal, including during weekends and holidays.

Animal owned by a teacher. The teacher who uses such an animal is responsible for its welfare.

Animal owned by a student brought to the school for a visit. The teacher is responsible for the animal’s welfare whilst the animal is at school.

Animal owned by parent, community person or organisation. Apart from livestock, animals may not be loaned to the school. Animals owned by parents, the community or an organisation may be used for Category 1 or 2 activities, provided the animal remains under the effective control of the owner.

Records

It is a requirement of the Act that schools maintain records documenting the use of animals in the school.

Teachers responsible for using animals must keep clear and accurate records of:
- the name and number of each species owned by or kept at the school
- the label on individual animals (or on the cages of animals, where appropriate)
- the dates and sources of acquisition
- disposal details and dates for each animal
- complete breeding records
- the dates and types of husbandry practices carried out, including the name of the operator
- any accident, illness or injury involving school animals and the veterinary treatment provided (if needed)
- descriptions in teaching programs of activities involving the use of animals and clear links to explicit educational objectives and related outcomes
- any significant occurrences that adversely affect the welfare of school animals, such as vandalism, dog attack, outbreak of disease etc.

Incidents involving animals that activate a response to a Critical Incident or similar policy must be reported to the ACT SAEC.

Research projects using animals

A research project using animals may require ACT SAEC approval prior to its commencement because it could involve:
- an animal being used for an activity that is not covered in the guidelines
- a student conducting a Category 4 or 5 activity.
If an approval is required for a project, then time must be allowed for the plan for the project to be assessed by the ACT SAEC before it begins. A time period of three months should be allowed for consideration of such an application. In order to obtain ACT SAEC approval, schools will need to satisfactorily answer the questions on the application Form D (Appendix 6).

Below are questions that should be answered by both the supervising teacher and the students in the planning phase. These questions assume there is no alternative to the use of animals and that the use of animals is essential to the achievement of the educational objective. These questions will not only assist teachers or students to complete the application form (for those projects requiring prior written approval) but they will also assist students carrying out projects involving Category 1-3 activities. These questions will assist students plan, identify appropriate research questions and anticipate potential problems.

1. Have you discussed the ethical considerations involved in setting up the project? (See page 21)
2. Is the project justified on the grounds of being of agricultural or scientific significance? (See list of objectives on pages 8-9)
3. Have you investigated all legal requirements for the type of animal and proposed investigation to be set up?
4. Is the aim of the project simple, clear and achievable by the proposed method?
5. Has a thorough search been made of all reasonably accessible resources providing information concerning the project? This is an essential step to ensure that:
   • the genetic make-up of the animal is the most suitable to achieve the aim
   • the minimum nutritional requirements for the particular type of animal are determined, taking into account its age, sex and stage of production and that these requirements can be satisfied
   • known diseases and pests that may be encountered are identified, along with advice on procedures to minimise the risk
   • the welfare needs of the animal are identified and can be met
   • the most appropriate types of caging or pen are known
   • the density of housing is appropriate
   • the effects of noise are identified and can be limited to acceptable levels
   • the appropriate photoperiod, temperature, humidity and ventilation are identified and provided
   • the social requirements - number and family groupings - are identified and provided
   • the animal’s suitability for interactions with humans is established
   • the appropriate source of animals is identified
   • an appropriate method for disposing of the animals on completion of project has been decided.
6. Do you have the resources to provide appropriate environmental conditions necessary for the care of the chosen animal?

7. Has the most appropriate species been selected, considering the aim, available resources and animal requirements?

8. Have all staff and other students who will share facilities with, and help with, the project been fully informed of the project and the animal’s needs?

9. Is the project designed so that statistically valid results can be obtained, using the minimum number of animals necessary?

10. By whom and how often will the animals be monitored?

11. What other similar studies have previously been carried out? How does this one differ, and what reasons are there for this one being repeated (if the same)?

12. Are there permits that must be obtained for the capture, keeping, use, destruction or release of the animals?

**Security of animals**

The school is responsible for housing and fencing that is soundly constructed, maintained in good repair and in a sanitary condition. All steps must be taken to protect animals from predators and harassment. When livestock is kept on the school farm, a section of the farm must be enclosed by a dog-proof fence. Additional measures, depending on the history of the school, may also be required, including gates and doors secured using toughened steel chain and padlocks, lighting, alarms, electric fences and/or barbwire.

Since school premises are largely unoccupied for part of each day, on weekends and during vacations, security requires special attention. Arrangements for regular and on-going monitoring must be made for those times.

Schools may consider encouraging interested neighbours or students living in close proximity to the school who may assist in “watching over” the school farm and its animals in addition to the normal monitoring and care undertaken by the school.

Circumstances may arise where the security of an animal cannot be reasonably assured. In this case the animal must be removed from the school to another secure location. The school is responsible for its animals, even when they are not held on school grounds.

**Critical incidents where animal welfare is compromised**

If an incident compromising the welfare of any animal occurs at the school the following should occur:

- The immediate needs of the animals must be assessed and attended to by the responsible teacher or other appropriately trained person (such as a veterinarian).
- Students’ needs for counselling must be assessed.
- If warranted, the school should respond using the Critical Incident Fact Sheet (#5) (see p. 41) or equivalent CEO or AIS policy.
• If an animal is injured or killed as a result of vandalism, outside animal attack or from a malicious act, the ACT SAEC and the local police must be advised immediately.

The ACT SAEC will provide advice to alleviate immediate concerns and prevent future incidents.

This section should be read in conjunction with the Critical Incidents Fact sheet (#5) or equivalent CEO or AIS policy.

A critical incident may be broadly defined as an event which results in:
• significant disruption to the school’s normal procedures; or
• a school being locked down, evacuated or requiring closure; or
• police notification and involvement in the school; or
• significant threat to the safety of students and/or staff.

An example of a critical incident is listed as injury or death of animals at the workplace due to vandalism.

Service animals

In the case of service animals used to compensate for a physical impairment, such as a seeing-eye dog, the handler or owner is responsible for the welfare of the animal. The supervising teacher is responsible for providing appropriate facilities if they are required, as well as assisting other students to understand the animal and its needs.

These animals are not to be used for any purposes apart from the observation of their behaviour whilst they are with their owner.

Sick, diseased and injured school animals

The treatment of sick, diseased or injured animals is not an approved activity within the meaning of these guidelines, it is a requirement.

A teacher’s management of unwell animals can have a profound influence on a student’s attitudes towards animals and towards life in general. Therefore it is important to recognise that the primary focus of the care of sick, injured or diseased animals is the animal’s welfare and not the child’s education. On the other hand, valuable lessons can be generated by thoughtful treatment of an unwell animal. This experience can build a student’s knowledge, skill and empathy for animals in his or her charge. Where appropriate, students should learn to recognise signs of an unwell animal, the need to seek expert advice on treatment and to follow a course of action that is in the best interest of the particular animal.

If an animal that is normally kept by a school becomes sick, diseased or injured, immediate and appropriate treatment should be given by an experienced person, which in most situations would be a veterinarian.

Supervising teachers need to have enough experience and expertise to enable them to recognise sick or injured animals and hence seek treatment. This may involve
taking the animal to a veterinarian or having a veterinarian visit the school. Suitable facilities must be available to allow for safe treatment of the animal at the school (e.g. a cattle crush or isolated holding pen).

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged immediately. As in the issue of killing animals (see the section Killing of animals page 30), euthanasia needs to be carried out by a person with the appropriate skill.

Simulated parenting activities

The use of animals in simulated parenting activities by students or teachers is not permitted.

Alternatives to the use of animals in this exercise include:
• observing normal animal behaviour of offspring with their parents
• observing human parents with their offspring
• involving students in peer support
• undertaking work experience in child-care centres or jobs involving caring for animals
• the use of dolls or computerised devices which simulate the parenting experience.

Stray, feral and free-living animals

Any free-living or domesticated animal that is sick, stray, feral, injured or orphaned and ends up in a school needs to be treated with great care. The health and condition of the animal needs to be quickly assessed, usually by a veterinarian or qualified wildlife or welfare officer, who will decide the ultimate fate of the animal.

It is the responsibility of the principal to ensure that the appropriate action is carried out as quickly as possible. Schools may need to develop a set of procedures for dealing with stray animals found at school or on the way to school. The Act and Code of Practice applies to all animals on school premises. If a stray dog or cat is found on school premises and is seized by any person, the person must take the dog or cat to the pound (contact the Domestic Animal Services on 6207 2424) or to its owner.

Transporting animals

Whenever animals are transported, facilities and conditions provided must be appropriate for the species, sex, age and size of the animal.

The Act and Guidelines describes requirements relating to the transportation of animals, as do the Act Gazetted codes of practice. The codes of practice describe the minimum facilities and conditions that must be provided for each species of livestock likely to be transported. It is essential that these are adhered to.
Glossary

**Accredited animal research establishment**
All corporations or establishments conducting animal research (including teaching) using animals are required to apply to the ACT Animal Welfare Authority, Environment and Recreation unit, Department of Territory and Municipal Services (TAMS). In the case of the Department, the Department is issued a licence which is reviewed every three years.

**ACT Code of Practice for Short Term Display of Animals**
This code of practice sets out the minimum standards for the care and management of animals involved in short-term displays, less than 14 days, for the purpose of entertainment, education and/or competition, such as animal displays, pet shows and agricultural shows not covered by other codes of practice.

**ACT Animal Welfare Authority (located at TAMS)**
This is the Authority responsible for the licensing of scientific institutions and schools for the use of animals for research and teaching purposes. The school systems are accountable to the authority.

**Alternatives**
Procedures which can completely replace the need to use animals, reduce the number of animals required, or diminish the amount of pain or distress suffered by animals.

**Animal**
Any live non-human vertebrate, that is fish, amphibians, reptiles, birds and mammals, and encompassing domestic animals, livestock and wildlife. The term includes feral and pest species as well as pets and livestock.

**Animal supplier’s licence**
(see Licenced animal supplier)

**Animal Welfare Act 1992**
The Animal Welfare ACT 1992 is legislation introduced to protect the welfare of animals by ensuring that their use in research and teaching is responsible, justified, humane and considerate of the animals’ needs.
Animal Welfare Liaison Officer (AWLO)
This is the within-school person appointed as required by the Regulation to monitor the school’s compliance with the requirements of animal research legislation. The Animal Welfare Liaison Officer may be the Principal or another suitably qualified teacher appointed to the position by the Principal.

Animal Welfare Regulation 2001
The Animal Welfare Regulation 2001 is the set of regulations that apply to the care and use of animals.

Approved activity
No animal may be used for scientific purposes without the prior approval of an ACT SAEC. Teachers may use animals without seeking ACT SAEC approval for procedures in Categories 1 to 3, as these activities have already been approved by the ACT SAEC. The AWLO must approve any Category 3 activities carried out at the school. Approval must be sought through ACT SAEC for students to participate in Category 4-5 activities and for any activities not covered by Categories 1-5. Before demonstrating Category 5 activities, teachers must have their competency accredited by the ACT SAEC.

Australian Code
The Australian code of practice (2004) for the care and use of animals for scientific purposes is the benchmark against which the practices of schools in keeping and using animals can be assessed. This code sets the minimum standards for the care and use of animals in teaching and research.

Culling
The agricultural practice of selecting animals to be removed from the herd or group.

Distress
An acute or chronic response of an animal caused by stimuli that produce biological or behavioural stress. It manifests itself as observable, abnormal physiological or behavioural responses.

Exempt animals
Certain categories of animals may be used for scientific purposes without needing to be obtained from a licenced supplier, eg any animal may be used for approved Category 1 activities.

Euthanasia
The process of inducing painless death on humane grounds. The procedure used must avoid distress, be reliable and produce rapid loss of consciousness without pain until death occurs.

Familiarisation
The process of accustomising animals to the school environment and routines so that they are comfortable with the people handling them. This results in the animals coping better and being safer to keep, from the teacher’s, student’s and animal’s perspective.
**Feral**
An introduced species of animal that is breeding successfully in the wild.

**Gentling**
Is a general term that refers to taming animals.

**Licenced animal supplier**
A person who holds a licence from the Environment Protection and Heritage section of TAMS allowing him or her to produce and sell animals for the purpose of teaching and research.

**Livestock**
Animals that are used in commercial agriculture, including cattle, sheep, pigs, poultry, goats, deer, and horses.

**Model codes**
A series of codes of practice that have been developed to protect the welfare of animals. They have been developed by a permanent committee supporting the work of the Agriculture and Resource Management Council of Australia and New Zealand. The model codes describe minimum standards for keeping, managing, handling, transporting and using animals.

**Environment Protection and Heritage**
An ACT Government department within TAMS responsible for issuing licences for the keeping of native animals.

**Outcomes**
Statements that express the specific intended results of teaching. They are derived from the objectives and other content.

**Pests**
Animals that have been declared by legislation to be noxious or destructive.

**3 Rs**
- the replacement of animals with other methods
- the reduction in the number of animals used
- the refinement of techniques used to reduce the impact on animals.

They are incorporated into the Australian Code, the use of which is a legislative requirement in the ACT.

**Schools Animal Ethics Committee (SAEC)**
A committee constituted in accordance with the terms of reference and membership contained in the Australian Code of Practice for the care and use of animals for scientific purposes.

**Scientific purposes**
All those activities performed to acquire, develop or demonstrate knowledge or techniques in any scientific discipline, including activities for the purposes of teaching, field trials, environmental studies, research, diagnosis, product testing, and the production of biological products.
**Sentient**
Refers to having the power of perception by the senses. Less sentient organisms are considered to have less perception by the senses and therefore it is believed that they may not have the same, strong sensations of pain and discomfort as more sentient organisms as well as psychological pain and suffering associated with fear.

**Service animal**
An animal used as a companion to compensate for a physical impairment in such areas as sight, hearing or mobility.

**Slaughter**
Killing and butchering of animals, especially for food or fibre.

**Stray**
A domesticated animal that has, for some reason, become separated from its owner.

**Wildlife**
Free living vertebrates of native and non-indigenous species.
List of relevant ACT Legislation

(The regulations and other legislative instruments can be accessed if you scroll down the linked page)

<table>
<thead>
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<th>Name of legislation</th>
<th>Address</th>
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Further Resources

<table>
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<tr>
<th>Name of Resource</th>
<th>Address</th>
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<tr>
<td>Application for a licence to keep, possess, breed, buy, sell or dispose of native animals</td>
<td><a href="http://www.tams.act.gov.au/live/environment/wildlife/birds/protected_native_animals">http://www.tams.act.gov.au/live/environment/wildlife/birds/protected_native_animals</a></td>
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# ACT Codes of Practice


<table>
<thead>
<tr>
<th>Name of Document</th>
<th>Section</th>
<th>Date Effective</th>
<th>Electronic Link</th>
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Schedule 2 of the *Animal Welfare Regulation 2001*

**Animals permitted to be used for teaching in certain schools**

Section 6. of the Animal Welfare Regulations 2001 states that:

Prescribed animals for Act, s 25 (2) (c)
The Act, section 25 does not apply to a person who uses an animal mentioned in schedule 2 for teaching purposes in a preschool or primary school.

Note: The Act, s 25 (1) prohibits the use or breeding of an animal for research or teaching.

**Schedule 2**

**Part 2.1 Amphibians**
1. axolotl
2. frog

**Part 2.2 Birds**
3. budgerigar
4. chicken
5. cockatiel
6. finch
7. pigeon
8. quail

**Part 2.3 Fish**
9. goldfish
10. guppy
11. platy
12. silver perch
13. sword tail

**Part 2.4 Mammals**
14. guinea pig
15. mouse
16. rabbit
17. rat
Appendix 1: Complaints/grievances made to schools about mistreatment of animals

This flowchart is designed to help schools adequately and effectively resolve complaints made to school about the mistreatment of animals. Any person who receives a complaint involving animals must attend to the immediate needs of any injured or harmed animals. This may be done by contacting the owner or appropriately qualified person, e.g., veterinarian or teacher with appropriate skills. The immediate support needs of any student must also be assessed and addressed.

All complaints/grievances must in the first instance be considered by the person receiving the complaint.

Is the complaint/grievance about cruelty causing immediate harm to an animal?

YES

This is a serious incident.
1. Contact an appropriately qualified person to attend any injured animals
2. Put in place any changes required to improve the future safety of animals.

CONTACT BOTH

NO

The complaint/grievance is about less immediate or obvious harm to an animal. It may relate to the way animals are housed or teachers’ or students’ treatment or use of animals at school.

The Principal attempts to resolve the complaint/grievance using the appropriate process described in the Department’s Complaints Resolution policy.

The principal attempts resolution but complainant may appeal.

NO RESOLUTION

RESOLUTION

END

The Schools Director follows the Department’s Complaints Resolution policy.

The Schools Director may consider asking the chair of ACT SAEC to assist with or conduct the investigations.

Notify the SAEC Executive Officer (contact details on P2 of these guidelines). The SAEC Executive Officer will:
- provide advice to the school about any breach of the animal Research Act and suggest appropriate actions to ensure ongoing safety of the animals
- advise other schools that may need to adjust their systems to avoid similar incidents
- report to the ACT SAEC

The Principal and/or Schools Director may need to be notified depending on the seriousness of the incident.

Report forwarded to Schools Director and ACT SAEC for action on recommendation.

All complaints/grievances must in the first instance be considered by the person receiving the complaint.
Appendix 2: Accreditation

Independent schools that are not part of the state school system or affiliated with the Catholic Education Office must apply annually for accreditation to use animals for teaching purposes. An application form may be obtained from, and when completed, returned to:

ACT Animal Welfare Authority
Environment and Recreation Network,
Department of Territory and Municipal Services
GPO Box 158
CANBERRA ACT 2601

Phone  6207 2249
Fax  6207 5956
Appendix 3: Application Form A
Request for Animal Research Authorisation (Schools)

Under the Animal Welfare Act 1992 the ACT Department of Education and Training holds a licence for the use or breeding of animals for the purpose of research or teaching. The conditions of this licence means the Department maintains an Animal Ethics Committee to ensure the humane care of animals used for scientific purposes. The ACT SAEC authorises schools to keep and use live animals in schools for teaching purposes.

Principals of schools are required to submit this form on a triennial basis, or when a change occurs to staffing or the program being offered. Schools with an approved Animal Research Authorisation are also required to submit an annual report (Form C). The continuation of the Authorisation is subject to the receipt of this annual report.

Note: Principals of primary schools are NOT required to complete this form if they have animals in Schedule 2 (see page 43) and they do not intend to undertake
• animal breeding activities
• any non pre-approved activities within the Guidelines or
• activities in Categories 4 or 5 of the Guidelines.

In this case, the Principal is considered to be the AWLO.

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<th>School/Unit</th>
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<th>Phone</th>
<th>Fax</th>
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1. **Animals in school**
   Does the school keep and use animals
   
   Yes [ ] (go to Q 3)  No [ ] (go to Q 2)

2. **Use of Animals in the future**
   Is the school planning to use animals in the future?
   
   Yes [ ] (go to Q 3)  No [ ] (there is no need to complete this form)

3. **Staff involved in keeping and use of animals**
   Please provide the name of the nominated Animal Welfare Liaison Officer (AWLO) responsible for approving Category 3 activities as defined in the Guidelines (pages 11-16) and staff that are responsible for the emergency and day-to-day care of animals.

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<thead>
<tr>
<th>Name</th>
<th>Position in School</th>
<th>Experience with Animals</th>
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4. Has an emergency contact list been provided to relevant teachers?
   Yes [ ] No [ ]

5. Have animals been obtained from a breeding or supply facility that maintains conditions consistent with the code or relevant industry codes?
   Yes [ ] No [ ]

6. Please provide a list of animals kept in the school and approximate duration (if insufficient room please attach a separate list)

<table>
<thead>
<tr>
<th>Animal Type or species</th>
<th>Location</th>
<th>Duration</th>
<th>Number</th>
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7. Are the animals housed in a safe, correctly sized, suitable and purpose built facility?
   Yes [ ] No [ ]

8. Is water attached to a permanent supply?
   Yes [ ] No [ ]

9. Has housing, feeding and maintenance of the animals been budgeted for?
   Yes [ ] No [ ]

10. Is the feed kept in vermin proof, dry conditions?
    Yes [ ] No [ ]

11. Are any permits required for the animals you are keeping?
    Yes [ ] No [ ] (go to Q 12)
    If yes, have they been obtained?
    Yes [ ] No [ ]

12. Have arrangements been made for the care and feeding of animals on weekends and holidays?
    Yes [ ] No [ ]

13. Has the regular feeding, watering and cleaning of the animal(s) been provided for?
    Yes [ ] No [ ]
    Please provide a brief description of these arrangements

The care and use of animals in ACT schools
14. How, when and by whom will animals be assessed for distress or illness?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

15. How will live animals be disposed of at the end of the teaching program?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

16. Has an emergency plan been made in case of fire, power failure or flood?

Yes ☐ No ☐

Please provide a brief description of these arrangements

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

17. Have you used the decision making flow chart (p10) of the Guidelines in your decision to use animals in your teaching programs?

Yes ☐ No ☐

18. Please provide a paragraph indicating the educational use of the animals and how this links to the school's curriculum, the framework or BSSS courses. Please attach appropriate course documentation.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

19. Please indicate the categories of activities to be undertaken by the school (Further information on categories can be obtained from pages 11-16 from the Guidelines for the Care and Use of Animals in ACT Schools).

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
20. Please provide the name and contact details of the veterinarian used by the school.


21. Do you intend to breed animals?
Yes ☐ No ☐ (go to Q 16)

Please provide an attachment describing the breeding program, the teacher’s experience with the species involved and methods of identification used for animals and planned disposal methods for surplus animals.

22. Please provide the names of any other schools or institutions involved in the care and use of animals in your school. (Note: Institutions other than ACT schools require approval from that institution’s AEC to use animals as part of a project)


NOTE:
1. The ACT Schools Animal Ethics Committee (SAEC) has the obligation to ensure the Code of Practice and all relevant legislation are being met in schools. As such, the committee could visit your school at anytime to observe practice, housing and animal care records.

2. Should any adverse events occur, (e.g. death, major treatment, or euthanasia due to illness or injury), the school must report this information to the ACT SAEC with the reasons for the actions. See Form F in the Guidelines.

3. The ACT SAEC has the right to remove animals from a school for the purposes of diagnosis of diseases.

4. Students taking animals home must have written approval from their parents or legal guardians.

I have read the Department’s guidelines for the Care and Use of Animals in ACT Schools and I accept responsibility for the ethical conduct of these programs according to the principles contained in that document. I acknowledge that the welfare of animals in schools is the responsibility of the Principal, and that the care and maintenance may be delegated to suitably trained or experienced staff in animal care.

<table>
<thead>
<tr>
<th>Signature of Principal</th>
<th>Date</th>
<th>Signature of AWLO</th>
<th>Date</th>
</tr>
</thead>
</table>

Please forward this form to:
ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA ACT 2601
Appendix 4: Application Form B

Application for Approval to obtain euthanased animals from The John Curtin School of Medical Research at the Australian National University

This form should be returned to the Secretariat of the ACT Schools Animal Ethics Committee (ACT SAEC) (Ministerial Relations) and a copy should be kept on file in the school.

Teachers will be notified in writing of the result. If approval is given, requests can then be made to JCSMR/ANU using the approval number provided by the ACT SAEC. A separate project proposal is required for each project.

The teacher making the request fills out all sections of this form before the ACT SAEC considers the request.

Details of Teacher making request

Name:  
School:  
Telephone:  Fax number:

Details of proposed activity

<table>
<thead>
<tr>
<th>Date of proposed activity</th>
<th>Type of activity planned</th>
<th>Number of animals</th>
<th>Year level of students</th>
<th>Number of students</th>
</tr>
</thead>
</table>

Please provide brief details of the proposed dissection, including procedure, instructions to students and disposal (the dissection method may be included as an attachment):

________________________________________________________________________
________________________________________________________________________

Questions (please tick the appropriate response)

The answers to these questions enable the ACT SAEC to reach a decision.

1. I confirm that student participation in the dissection / demonstration is optional.
   Yes  No

2. I confirm that non-participating students will not be disadvantaged or receive a lower grade.
   Yes  No
3. I confirm that I am aware of computer simulation software.
   Yes ☐ No ☐

4. I confirm that on this occasion, dissection is more appropriate than computer simulation software or the use of other 3D models
   Yes ☐ No ☐

   Please explain the reasons why ‘replacement’ of the dissection with other methods is not appropriate *

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

5. Please explain why the number of rats requested cannot be further ‘reduced’

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

6. I confirm that the dissection is a documented part of the course.
   Yes ☐ No ☐

   *I have considered the following principles before deciding to proceed with the following application for the use of animals as set out below.

   Reduction  The smallest number of animals required to achieve the aim of the work has been considered.
   Refinement  The impact of procedures or manipulations carried out on animals has been minimised
   Replacement The use of animals has been discounted if there is a satisfactory alternative way to achieve the aim.
   (Based on Marbrook et al 1994)

   Contact  Please forward this form to:
   ACT Schools Animal Ethics Committee
   Department of Education and Training
   GPO Box 158
   CANBERRA ACT 2601

<table>
<thead>
<tr>
<th>Teacher Signature</th>
<th>Date</th>
<th>Head of Department Signature</th>
<th>Date</th>
</tr>
</thead>
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</table>
Appendix 5: Application Form C
Annual school report on acquisition, disposal and husbandry activities

Schools with animals not listed in schedule 2 must maintain comprehensive records documenting acquisition, disposal and all husbandry activities carried out with the animals kept by the school for educational purposes. These schools are required to provide an annual report to the ACT SAEC in September of each year.

<table>
<thead>
<tr>
<th>School/Unit</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
</table>

1. Have any new animals been acquired by the school over the past 12 months.
   Yes ☐ No ☐ (go to Q2)

   Please complete the table below:

<table>
<thead>
<tr>
<th>Breed of animal</th>
<th>Number of animals</th>
<th>Educational purpose</th>
<th>Name of teacher and their experience with the breed</th>
</tr>
</thead>
</table>

Please attach a copy of the planned husbandry techniques for these animals

2. Please provide a list of the total number of animals kept in the school and approximate duration (if insufficient room please attach a separate list. If the same as above, please write as above).

<table>
<thead>
<tr>
<th>Animal Type or species</th>
<th>Location</th>
<th>Duration</th>
<th>Number</th>
</tr>
</thead>
</table>

3. Please attach a copy of the calendar of husbandry activities carried out over the past 12 months for the animals listed above. Please include any movement activities undertaken.

4. Please provide details of the death and disposal of any animals over the past 12 months.

<table>
<thead>
<tr>
<th>Animal Type or species</th>
<th>Number</th>
<th>Cause of death</th>
<th>Means of disposal</th>
</tr>
</thead>
</table>
5. Please describe educational outcomes that have been achieved as a result of the use of animals in the school.

__________________________________________________________________________

__________________________________________________________________________

6. Please describe any problems that have been encountered.

__________________________________________________________________________

__________________________________________________________________________

7. How consistent has the wellbeing of the animals been with that anticipated at the beginning of the teaching period?

__________________________________________________________________________

__________________________________________________________________________

8. Are any changes envisaged over the coming year to the program, number or type of animals used?

__________________________________________________________________________

__________________________________________________________________________

9. Please tick the educational objectives below that are being met by the curriculum at your school.

   Objective 1  Developing students’ skills in relation to responsible animal care and management.
   Objective 2  Developing students’ skills in observing animals to enhance their understanding of the behavioural characteristics of species.
   Objective 3  Developing students’ skills of investigation where the purpose is to improve methods of animal management or to improve production.
   Objective 4  Assisting students to develop empathy with and respect for animals.

<table>
<thead>
<tr>
<th>Signature of Principal</th>
<th>Date</th>
<th>AWLO Signature</th>
<th>Date</th>
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</thead>
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</table>

Please forward this form to:
ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA  ACT  2601
Appendix 6: Application Form D
Application to use an animal in teaching that is not on the approved list or is in Category 4 or 5

For the following activities using animals, written approval from the ACT SAEC is required, prior to commencement of the activity. They are:

- when students carry out Category 4 or 5 activities
- when teachers demonstrate Category 5 activities
- when either teachers or students carry out an activity not listed in Table 3, Description of activities, (pages 13–15)
- when teachers apply for a licence to keep, possess, breed, buy, sell or dispose of native animals from the Department of Territory and Municipal Services. http://www.tams.act.gov.au/live/environment/wildlife/birds/protected_native_animals

The teacher needs to describe clearly how the activity is to be carried out and the level of supervision of students so that the ACT SAEC can obtain a clear picture of what is proposed to happen to individual animals. The information you supply on the form should focus on what is happening to the animals and what is being done to ensure their wellbeing. The ACT SAEC requires that the person teaching the students has an appropriate level of knowledge about, and skill in, carrying out the requested activity.

Where approval is being sought for students to carry out an activity, it is essential to explain why the student needs to be the one carrying out the activity. Animal husbandry grounds alone will not be sufficient. For example, the justification for students to carry out lamb marking is not because it needs to be done for animal husbandry reasons (a teacher or other expert could do it). An educational justification for students to carry out lamb marking could be that it allows them to meet a competency standard or achieve a specific teaching outcome.

Associated with this educational justification is that the teacher has applied the principles of the 3Rs in the planning of the requested activity. (See page 21)

The incorporation of the 3Rs is reflected in the preparation of the students for carrying out the activity, decisions related to the source, number, species and ages of animals to be used and consideration of the potential impact of the activity on the animal and how the impact may be ameliorated.

It is advisable that when an approval is to be sought for students to use an animal for a research project which involves a Category 4 or 5 or non-approved activity, the teacher and student should complete the application form together as a valuable learning and teaching method.

Teachers are reminded that the application must be applied for well in advance and approval received prior to carrying out the proposed activity.
A separate application form is needed for each activity. If additional space is required please attach.

1. (a) Does your school hold a current Animal Research Authority for Category 1–3 activities? (please tick)
   Yes ☐ No ☐

(b) Do you hold a current Animal Research Authority for Category 4 or 5 activities? (please tick)
   Yes ☐ No ☐

2. School name

__________________________________________________________________________

School address
__________________________________________________________________________

3. School telephone no. Fax:

__________________________________________________________________________

4. Name of within-school Animal Welfare Liaison Officer

__________________________________________________________________________

5. Name of teacher supervising the activity

__________________________________________________________________________

6. (a) Briefly describe the activity for which you are seeking approval. Please include a description of your method.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

(b) Is the approval for a Category 4 or 5 activity? (please tick)

Category 4 ☐ Category 5 ☐

Note: If you are seeking approval for a Category 5 activity, please ensure that whoever is doing the actual teaching has a current ACT SAEC certification to demonstrate the procedure. Refer to Appendix 7
7. Please indicate whether the teacher will be the instructor carrying out the activity or if an instructor who is not a classroom teacher will be carrying out the activity while the teacher supervises.

The teacher is the instructor  Yes ☐ No ☐

Describe the qualifications and/or experience of the person for this activity.

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

8. Describe the preparation or training of students PRIOR to the actual activity for which approval is sought (your answer could include examples of skill-building with equipment, using alternatives to simulate the task and risk assessment for animals and students).

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

9. (a) What outcomes or competencies will students achieve by carrying out this activity?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

(b) Why do students need to use animals, rather than alternatives, to achieve these outcomes or competencies? (See page 7).

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

10. Where will the activity be carried out? (Include address)

__________________________________________________________________________

11. Using the table below, describe what potential impact your activity will have on animal wellbeing and how you will ameliorate the impact.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Amelioration of impact</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

The care and use of animals in ACT schools
12. What responses have you planned in the event that complications arise from the activity that adversely affect the animal (e.g. illness, infection, injury)?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

13. Please provide the following information about the animals to be used in this activity:
   (a) Species of the animal(s) _________________________________________________
   (b) Age of the animal(s) to be used _________________________________________
   (c) Number of animal(s) to be used _________________________________________
   (d) Gender of the animal(s) ________________________________________________
   (e) Source of the animal(s) ________________________________________________
   (f) History of the animal’s prior exposure to humans ___________________________
__________________________________________________________________________
__________________________________________________________________________

14. (a) Have these animals been used for any other Category 4 or 5 or non-approved activities?
   Yes   No
   (b) If yes, please provide brief details.
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

15. (a) Where will the animals for this activity be housed?
__________________________________________________________________________
__________________________________________________________________________

   (b) Describe the type of animal housing to be provided.
__________________________________________________________________________
__________________________________________________________________________

   (c) If animals are to be penned or caged describe their numbers and allocated space per animal.
__________________________________________________________________________
__________________________________________________________________________
16. What will the animals be fed, and how often will they be fed?

__________________________________________________________________________

__________________________________________________________________________

17. Please provide the following information about the organisation of the activity:
   (a) Maximum number of students to be supervised by the teacher at one time for the activity

__________________________________________________________________________

(b) Number of students carrying out the activity at the one time

__________________________________________________________________________

(c) Minimum and maximum number of animals to be used by each student

__________________________________________________________________________

(d) Details of supervision by teacher

__________________________________________________________________________

__________________________________________________________________________

(e) After-activity monitoring of animals

__________________________________________________________________________

__________________________________________________________________________

18. What will happen to the animals at the end of the activity?

__________________________________________________________________________

__________________________________________________________________________

We declare that the information provided above is accurate and describes the proposed activity. As the supervising teacher I accept responsibility for the care of the animals to be used and I declare that the activity will be carried out as detailed in the application form.

<table>
<thead>
<tr>
<th>Signature of Principal</th>
<th>Date</th>
<th>AWLO Signature</th>
<th>Date</th>
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<table>
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<tr>
<th>Signature of Teacher</th>
<th>Date</th>
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</tbody>
</table>

Please forward this form at least 12 weeks in advance to:-
ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA ACT 2601
Appendix 7: Application Form E
Application for certification to demonstrate a Category 5 activity

Name of teacher: _______________________________________________________

Date of this application: ________________________________________________

Date of approval: _______________________________________________________

(ACT SAEC Officer only to complete)

School: _______________________________________________________________

School address: _________________________________________________________

____________________________________ Post code: ______________

School telephone: _______________________________________________________

Fax no: ________________________________________________________________

Name of Animal Welfare Liaison Officer within the school: _______________________

Please attach a copy of the approved course that requires the need to demonstrate a Category 5 activity.

Do you hold a current Animal Research Authority for Category 4 or 5 activities? (please tick)

Yes [ ] No [ ]

Please tick any Category 5 activity for which certification is sought and write in the species of the animal on which this activity is to be carried out.

Collection of ruminal fluid: Species: ________________________________

Collection of blood sample: Species: _________________________________

Collection of faeces (invasive): Species: ____________________________

Artificial insemination: Species: ________________________________

Semen collection: Species: ________________________________

Mulesing of young sheep: ____________________________________________

Nose ringing of cattle: _____________________________________________

Slaughter or euthanasia of stock: Species: ____________________________
Proposed method of euthanasia: ___________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Evidence of demonstrated competency must be provided for each activity for which certification is applied.

Any person verifying the competency of the teacher must sign the evidence and provide contact details.

Both the applicant and the school principal and the AWLO must complete the attached declaration.

The evidence must be attached to this completed application form and then forwarded to:

ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA ACT 2601

**Applicant’s declaration**

I declare that the information provided above is accurate and true and I understand that, if certification is granted, it will be for a period of three years.

Signature:_________________________________________________          Date:___________

**Principal’s declaration**

I understand that____________________________________ is seeking certification for a period of three years to demonstrate to students a Category 5 activity. To the best of my knowledge the information provided by ___________________________________ is accurate.

Signature:________________________________________________            Date:___________

**AWLO Signature**

I declare that the activity above is an integral part of the curriculum and I understand that, if certification is granted, it will be for a period of three years.

Signature:_________________________________________________          Date:___________

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Appendix 8: Application Form F
Notification of changes to staffing and/or activities

When a change occurs to staffing or the program being offered a Notification of changes to staffing and/or activities, including animal death or injury (Form F) must be submitted. These activities must not be undertaken without approval and certification by the ACT SAEC.

<table>
<thead>
<tr>
<th>School/Unit</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
</table>

1. Please tick the area of change being notified
   - A change in staff members undertaking the program (go to Q2)
   - A change in the program activities being undertaken (go to Q3)
   - A death or euthanasia of animals (go to Q4)
   - Treatments provided to animals for series injuries/illness (go to Q5)
   - Discontinuation of the program (go to Q6)

2. Please provide details about the new staff member including their experience

<table>
<thead>
<tr>
<th>Name</th>
<th>Position in School</th>
<th>Experience with Animals</th>
</tr>
</thead>
</table>

3. Please describe the changes in the program activities, including changes in animal numbers or husbandry

<table>
<thead>
<tr>
<th>Change to program/activities</th>
<th>Change in Husbandry</th>
</tr>
</thead>
</table>

4. Please provide the type or breed and number of animals and the cause of death. If euthanasia was used please give the reason and the name of the person administering the euthanasia.

<table>
<thead>
<tr>
<th>Type or breed of animals and Number of animals</th>
<th>Cause of death</th>
<th>If euthanasia was used, the reason and name of person administering this.</th>
</tr>
</thead>
</table>

If the death was unexpected has an autopsy been undertaken?
Yes [ ] No [ ] (go to Q5)
List the qualifications of the person undertaking the autopsy
5. Please complete the table below including the treatment given and the person/s administering the treatment

<table>
<thead>
<tr>
<th>Type or breed of animals and number of animals</th>
<th>Diagnosis of illness including the name and expertise of the person completing the diagnosis</th>
<th>Treatment provided, including the name and experience of person(s) administering the treatment</th>
</tr>
</thead>
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</table>

Is quarantine required?  Yes ☐  No ☐  (go to Q6)

What procedures have been used?

______________________________________________________________________________

6. Please provide the reasons for the discontinuation of this teaching program.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

NOTE: A final Annual school report on the acquisition, disposal and husbandry activities (Form C) will need to be completed and attached.

<table>
<thead>
<tr>
<th>Signature of Principal</th>
<th>Date</th>
<th>AWLO Signature</th>
<th>Date</th>
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</table>

<table>
<thead>
<tr>
<th>Signature of Teacher</th>
<th>Date</th>
</tr>
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</tbody>
</table>

Please forward this form to:
ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA ACT 2601
Appendix 9: Application Form G
Annual Report of Animal Holdings (Schools)

All High Schools and Colleges that hold animals must complete this form annually. Primary Schools that have animals not in schedule 2 of the Animal Welfare Regulation 2001 (see page 43) must also complete this form annually.

School Contact Officer: ___________________________________________________________

School: ___________________________________________________________

School address: ___________________________________________________________

_________________________________________ Post code: __________________

School telephone: ___________________________________________________________

1. Please provide a list of animals kept in the school and approximate duration (if insufficient room please attach a separate list)

<table>
<thead>
<tr>
<th>Animal Type or species</th>
<th>Location</th>
<th>Duration</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

2. If you had approval to use animals in your school last year, please indicate on this table their current whereabouts.

<table>
<thead>
<tr>
<th>Animal Type or species</th>
<th>Whereabouts/disposal</th>
<th>Current number</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Signature of Principal: ___________________ Date: __________

Signature of AWLO: ___________________ Date: __________

Please forward this form to:
ACT Schools Animal Ethics Committee
Department of Education and Training
GPO Box 158
CANBERRA ACT 2601
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Alpacas

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for the care and use of alpacas.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools.

Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report forma and forwarded to workplace relations and Government Legal and Liaison section.
Physical attributes

Size: 78–104 cm at the withers
Weight: 47–80 kg
Age at adult size: 2–3 years
Weight at birth: 5–10 kg
Gestation period: 11.5 months, range 11–12 months
Number of offspring: 1
Weaning age: 6–8 months
Sexual maturation: Females: 12–14 months
Males: 1.5–2 years
Life expectancy: 20–25 years
Healthy characteristics: Temperature: 36.4–37.8ºC
Heart rate: 60–100 beats/min
Respiration: 20–30/min

Environment

Space
Alpacas may be kept in extensive situations with a carrying capacity similar to that of large sheep.

Movement and exercise
Alpacas need to run and need room for a dust bath. Access to shade throughout the day is essential and sprinklers may be provided on very hot days to allow the animals to cool down. Alpacas prefer shelters that allow them to see out.

Fencing
1.2 m high sheep fencing is adequate to keep alpacas in. Do not use barbed wire where alpacas may come into contact with it. Alpacas rarely test fences but, if they are confined and stressed, will easily jump over 1m high pens, particularly if they are confined without a companion. For this reason, it is always advisable to take a pair to shows and displays.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Temperature
Alpacas are susceptible to heat stress. They should be provided with access to shade and sprinklers in very hot weather. Shear them each year around September or October. They rarely seek shelter from rain but usually lie down with their legs tucked underneath them. Cria and freshly shorn alpacas need protection from the cold.

Bedding
Due to the problems of fleece contamination, bedding for penned animals should be made from rubber, woven or slatted matting rather than straw. If straw is used, ensure that it is free from seed as it is very difficult to remove from the alpaca’s fleece.
**Cleaning**

Alpacas avoid defecating in their pens unless confined for long periods. They usually wait until they can get to the dung pile.

**Food and water requirements**

Although slightly heavier than sheep, alpacas are also more efficient feed converters so require a similar amount of feed to sheep. As with most animals on school farms, supplementary feeding will probably be necessary due to a shortage of space and, consequently, insufficient grazing. Alpaca can have their diets supplemented with a stud mix, lucerne hay or alpaca pellets. A maintenance diet for alpacas is about 1.5% of their body weight each day on a dry weight basis. The energy and nutrient requirements of a lactating alpaca increases by 2 to 2.5 times that of maintenance.

**Handling**

Alpacas need to be handled calmly and with care to prevent distress and injury to the animals and the handlers. When working with alpacas, consistent quiet and slow behaviour makes them very easy to handle and they will usually herd easily. Alpacas learn quickly and will usually learn to come up to a feeding pen when called.

**Normal behaviour**

Alpacas are normally alert and inquisitive. They move together when herded. They groom themselves by having regular dust baths and scratching on posts or bushes. The herd will have a community dung pile and, if necessary, will even line up and wait for their turn. Alpacas chew their cud, usually while lying down early in the morning. They will sprawl out and sun themselves, especially after periods of rain, and will wade in creeks, dams or even water troughs to cool down. Alpacas can swim.

**Disease prevention**

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian or Agriculture officer. All action should be documented in the appropriate records.

**Signs of illness**

The first sign noticed is a change in the animal’s natural demeanour. It may be listless or lethargic. Closer examinations may show:

**Variations in:**
- body temperature
- gastrointestinal function, e.g. diarrhoea, weight loss, loss or change of appetite,
- lack of regular dust bathing or bathing in unusual places
- urogenital function such as abortion, infertility or abnormal discharges
- respiratory function, e.g. persistent coughing, gasping or panting; or
Evidence of:
- body temperature
- skin condition such as lesions or abnormal growths
- a tucked up appearance, stiff gait, abnormal posture, patchy coat or loss of hair
- excessive scratching or rubbing
- swollen joints or lameness.

A failure to thrive or grow is another sign of illness.

If unable to identify and correct the cause of ill health, assistance from a veterinarian familiar with alpacas should be sought. Any signs of illness or injury, and treatments given, must be documented in the appropriate records.

**Euthanasia**

Where animals are so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

**Disposal**

Alpacas can be sold privately or at auction. Carcasses must be disposed of in accordance with local council regulations.

**Suggested resources**

**Web sites**


Animal Health Australia: July 2005, Animal Health Australia, viewed 25 September 2008

ACT Department of agriculture, fisheries and forestry, 15 September 2008, Commonwealth of Australia, viewed 25 September 25 2008

Australian Alpaca, 1999-2008 Australian Alpaca Association LTD, viewed 25 September 2008

**Printed texts**


Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608
Commonwealth of Australia, Department of Agriculture, Fisheries and Forestry
Local council
Local farm supplies trader

Approved activities: alpacas

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

A. Very low impact activity
• Observation of the normal behaviour of animals (Category 1)
Alpacas can be observed carrying out their normal activities of sunning, wading, dust bathing and communicating with each other. Depending on the circumstances, alpacas have a wide range of noises, the most common being a gentle humming.

B. Low impact activity
• Capture, restraint and handling (Category 2)
A moveable fence can be established by having a long rope held at waist height between two people and stretched across a paddock. This enables the alpacas to be herded to a particular spot. Capture is easiest with the handler’s arm low down around the alpaca’s neck. Most alpacas will be quite comfortable in this position while a halter is fitted. Before students attempt these tasks, they should be familiar with alpaca behaviour and be instructed to move quietly and slowly. An alpaca can be restrained by holding the animal’s head and neck firmly to the handler’s chest whilst the other hand rests over the animal’s withers. If necessary, another person may be used to pin the back end of the animal firmly to the side of a pen. Take care that the animal is not able to get its legs caught in fencing. Alpacas may be restrained further by tying a loop of soft rope, with approximately 15 cm of slack, around the body, just in front of the pelvis. The rear legs can then be lifted and the feet placed into the loop under the abdomen. If it is necessary to lay the animal
down, use two people standing on one side of the animal. Both lean across the animal’s back and grasp the legs closest to the handlers. Carefully flip the animal over with the front handler also supporting the neck.

C. Non-invasive measurement of

1. **body weight** *(Category 2)*
   Alpacas that are handled regularly can be easily trained to stand quietly on livestock scales.

3. **growth** *(Category 2)*
   The animal’s growth can be followed by measuring the height of the animal at the withers. Wool growth can be measured by using a ruler to take a series of random measurements on different sections of the animal’s fleece. Students can compare the growth rate of the different sections. While the quality of the saddle and neck fleece may often be similar, it is the different growth rates that necessitate its separation during classing. After shearing, wool can be sent off for fibre diameter analysis. This process is quite cheap and provides an excellent resource for students.

4. **body proportions** *(Category 2)*
   Photographing animals progressively throughout their growth period can show body proportions.

5. **pulse or blood flow** *(Category 2)*
   The pulse can be recorded by feeling the animal’s carotid artery at the base of the jaw. With a little practice, students should be able to hear the heartbeat using a stethoscope. It is best if students practise on each other first.

6. **respiration** *(Category 2)*
   Respiration can easily be measured by holding a hand close, without touching, to the animal’s nostrils to feel the breath.

D. Measurement of mild dietary modifications

4. **palatability** *(Category 3)*
   This should be restricted to observation of grazing preferences and palatability of different feeds, e.g. offer native or introduced grasses, different types or grades of hay, etc.

E. Behaviour activities

2. **taming and gentling** *(Category 3)*
   All alpacas to be used at schools should be tamed as early as possible to avoid stress on the animals when students handle them. Young animals at 6–8 months, that have just been weaned, are easy to tame. Older animals that have been handled extensively and are well tamed will be the most suitable to purchase for the school environment. Older, untamed animals may never settle in and are likely to become stressed when handled extensively by students. Even when there is adequate pasture, animals can be given a small amount of hand feeding each day to help the
taming process. Alpacas respond to calm and gentle handling and usually prefer not to be touched on the head.

3. **training for showing** (*Category 3*)

All school alpacas should be halter-trained. To do this, the handler needs to hold an animal firmly and use a reassuring voice. Then, with a lead attached to the halter, the handler stands in front of, and faces, the alpaca and pulls the animal gently forward. As soon as the animal takes a step forward, the tension on the lead is loosened. Continue this process until the alpaca walks with the handler. The alpaca can then be taught to walk beside the handler. With a young alpaca that is happy to be handled, it may be easier for the handler to walk beside the animal with one hand holding the lead and the other hand over its withers to comfort it. A young alpaca will frequently follow a companion who has already been halter trained, making the job very much easier. If animals are to be shown, they need to become used to grooming. Grooming consists of picking debris off the fleece and lightly blowing the dirt out of the fleece using the blower end of a vacuum cleaner or a cattle blower. Most shows have classes for alpaca wethers and for fleeces.

F. **Collection of samples from livestock**

1. **wool** (*Category 2*)
   
   If a small sample is required, scissors can be used. Ensure that the animal is adequately restrained.

2. **milk** (*Category 2*)
   
   This procedure should only be carried out if a weak, newborn cria needs hand feeding. To obtain the milk, cut the end off a 20 ml disposable syringe and remove the plunger. Insert the plunger through the cut off end as far as it will go. Using a little milk to create a good seal, place the non cut-off end of the syringe over the teat and, very slowly, pull the inside plunger downwards. It is important to maintain strict hygiene procedures throughout.

3. **faeces and urine** (non-invasive) (*Category 2*)
   
   Faeces can be easily collected from a dung pile. To ensure that the faeces come from a particular animal, a large cloth or feed bag can be placed over the dung pile and the animal will defecate on top of, or very close to it. Students should wear gloves and follow proper hygiene procedures. Collection of urine would rarely need to be carried out. If it is deemed necessary, a bucket placed over the dung pile may be a useful technique to collect the sample. Ensure that students wear gloves and follow strict hygiene procedures.

6. **ruminal fluid** (*Category 5*) (further approval required)

7. **blood** (*Category 5*) (further approval required)
G. Standard husbandry activities

1. administering treatments oral
   • drench (Category 3)

   Whilst it is generally accepted that alpacas do not have a serious problem with
   intestinal worms due to their use of a dung pile, most school alpacas will be run with
   other livestock and, therefore, will need to be drenched routinely at the same time as
   the other stock. The dose will depend on the weight of the animal. Ensure the dose is
   calculated accurately. Restrain the animal securely and place the nozzle of the gun on top of the back of the tongue. Hold the animal’s head upwards until it has swallowed the drench.

injection
   • subcutaneous (Category 3)

   Alpacas should be regularly vaccinated using either 5-in-1 or 7-in-1 vaccine. First
   vaccinations should occur at three months of age. Injection should be subcutaneous
   and placed behind the elbow. It is important to maintain a program of vaccination
   and control of parasites for all alpacas. When treating for internal and external
   parasites, all animals should be treated at the same time and pastures should
   be rotated in conjunction with the drench program. These activities need to be
   documented in the appropriate records. When using vaccines, drenches or any other
   animal care chemicals, care must be taken and noted about the following:
   • reading all labels
   • maintaining appropriate storage
   • adhering to withholding periods
   • determining the weight of animals
   • determining the correct dose rate
   • using protective clothing if required.

4. ear marking/tagging of livestock (Category 3)

   Registered alpacas have a brass ear tag that is placed on the left ear for a male and
   on the right ear for a female. Plastic numbered tags may be used in the opposite ear.
   The animal should be carefully restrained while the ear is cleaned. Applicators should
   be smooth, sharp and thoroughly cleaned. Ensure that the tag does not puncture the
   veins.

6. hoof paring or nail clipping (Category 3)

   An alpaca’s nails may occasionally need clipping. This can be done using standard
   hoof paring or footrot shears.

8. temperature (Category 3)

   Temperature is measured rectally using a clinical thermometer. Ensure that the
   animal is carefully restrained and use a plastic digital thermometer to prevent injury
   from a broken glass thermometer.

9. shearing of alpacas and llamas (Category 4) (further approval required)

   This procedure is best carried out by an experienced alpaca shearer. Alpacas are
   restrained by being stretched out on the floor and having their legs tied to wooden
   spacers. A handler holds the head of the animal. When one side of the animal has
   been shorn, the animal is flipped over and the other side is done.
It is important to have the fleece as clean as possible before shearing and students can pick off debris and blow out dust. Place a large tarpaulin on the ground to lay the alpaca on during shearing. Students can class and separate the fleece after shearing.

33. **pregnancy detection** (*Category 3*)
Initial diagnosis is made by the female spitting off a male when he tries to mate. Pregnancy can be confirmed after 15 days by ultrasonography. Due to a high rate of early embryonic mortality, 30–35% in the first 40 days, it is best to delay ultrasonography until after 40 days. Repeat at 120 days.
Aquaculture

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for aquaculture.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Aquaculture is currently not used in the ACT.

Aquaculture is the commercial farming of fish, molluscs, crustaceans and aquatic plants, in natural or controlled marine or freshwater environments. Aquaculture will grow in importance as pressure increases on wild fisheries. At present the industry is dominated by oyster farming with prawn farming also making a valuable contribution. The silver perch industry is becoming the most valuable freshwater aquaculture species in NSW. Other important species in NSW aquaculture include trout, snapper, mussels, yabbies, barramundi and Murray cod.

There are various species of fish that are suitable for using in a schools’ aquaculture enterprise. Care should be taken to ensure that species that are most appropriate to the school environment are selected. Characteristics that need to be considered in the selection of species for a school-based aquaculture enterprise include:

- Ability to thrive in captivity
- Suitable behaviour such as schooling and swimming near the water surface
- Capable of rapid and uniform growth
- Amenable to artificial feeding
- Efficient food conversion
- Non-canabalistic
- Disease resistant
• Hardy
• High meat recovery
• Marketability.

**Note:** It is illegal to stock the following species in NSW waters:

• Tilapis
• Redfin
• Gambusia (mosquito fish)
• Carp
• Koi carp.

### Aquaculture permits

An aquaculture permit is required under S. 144 of the *Fisheries Management Act 1994*, where a proponent intends to cultivate fish or marine vegetation for the purposes of harvesting the fish or marine vegetation or their progeny with a view to sale; or keeping fish or marine vegetation in a confined area for a commercial purpose. An aquaculture permit is required whether fish are grown for human consumption, or used in the aquarium trade, for sale to other fish farmers or sale of fish for stocking farm dams or waterways. An aquaculture permit is not needed where a proponent keeps fish in a pet shop for sale or in an aquarium for exhibition, or where fish are maintained for non-commercial purposes, e.g. stocking a farm dam with fish for personal recreation use or consumption. More information about aquaculture permits can be found through the NSW Department of Primary Industries website [www.dpi.nsw.gov.au/fisheries](http://www.dpi.nsw.gov.au/fisheries)

### Environment

All facilities used to house fish must be operated in a manner that optimises conditions for the particular fish species. Suitable facilities for holding fish include ponds, raceways, tanks, cages and aquaria. All facilities should be aerated. Tanks and aquaria should be aerated continuously with diffused air and ponds with mechanical aerators such as paddlewheels for around 8 hours/day. In circular, self-cleaning tanks, a constant flow of water must be used to facilitate the removal of solids and dissolved wastes, e.g. ammonia to supplement aeration. If tanks need to be static, e.g. during chemical treatment, fish should not be fed and water (10–30%) should be exchanged daily.

### Space

The stocking density for fish is dependent on the prevailing water quality, the size of the fish, the temperature of the water and the oxygen supply. Table 1 lists the optimum stocking density for each of the housing types.

**Housing type optimum stocking density:**

- Tank 10 kg/m³
- Cage 20 kg/m³
- Pond 20 t/ha
Covers or shelter for tank

Tanks should be placed undercover or in a building out of direct sunlight to provide an environment with relatively low light intensity. During winter months the need to heat individual tanks can be avoided by keeping tanks in a closed environment where the air temperature of the room can be maintained. Heating should be used before the water temperature drops. This reduces the amount of heating required and saves power and money.

Water quality

Maintenance of good water quality is the most important aspect of fish husbandry. Maintenance of good water quality requires the regular monitoring of temperature, dissolved oxygen, pH and ammonia, and for marine and brackish water species, salinity.

Temperature

Fish are ectotherms because heat is obtained from outside the animal unlike endotherms (e.g. mammals) that generate their own body heat. Usually, the body temperature of ectotherms is close to that of their surroundings; they are often described as poikilothermic (having variable temperature). Temperature affects all chemical and biological processes. The metabolic rate of fish doubles for every rise of 10°C. Therefore, temperature has a direct effect on important factors such as growth, oxygen demand, food requirements and food conversion efficiency. The higher the temperature, the greater the requirement for oxygen and food and the faster the growth rate. Temperature partly determines the concentration of oxygen in water. The solubility of oxygen decreases with increasing temperature, and so concentrations are usually lower in summer.

Silver perch have a temperature tolerance range of 2 to 38°C with optimum growth occurring between 23 and 28°C. During winter when water temperatures are lower, silver perch will require less food and have a slower growth rate. At temperatures below 10°C the fish may enter a state of torpor, with greatly reduced appetite and activity. As the water temperature increases in spring and summer, the fish will require a larger quantity of food due to the increase in their metabolic rate. If the temperature is to exceed the critical level for a particular species, fish may become stressed, more vulnerable to disease, stop growing and can die.

Dissolved oxygen

Dissolved oxygen is the most critical and limiting variable in fish husbandry and culture. Like all animals, fish cannot live without oxygen. Although fish can survive at levels of 4 mg/L, they may suffer stress, reduced growth and increased susceptibility to disease. Oxygen enters water through diffusion at the air-water interface and as a result of photosynthesis when there are plants in the water. For aquaria, tanks and raceways, dissolved oxygen is usually supplied through low pressure compressors or blowers (through diffusers like air stones). In ponds, paddlewheel aerators are among the most efficient methods of transferring oxygen from the air to the water. This also helps with mixing water throughout the pond.
Salinity
Salinity refers to the total concentrate of all dissolved ions. Many Australian native fish tolerate a wide range in salinity, with freshwater species coping with up to 5 g/L and many estuarine species coping with salinity as low as 10 g/L. Fish need to be given time to adjust to changing salinity.

pH
The desirable range for fish is around 6–9, depending on the species. A pH of 4 is lethal for most species while prolonged exposure to pH levels of above 10 is also lethal. Other variables that influence the water quality include alkalinity, hardness, turbidity and ammonium, nitrite, hydrogen sulphide and carbon dioxide levels.

Water exchange
Poor water quality can result from inadequate water exchange. Water exchange can be achieved through:
• partial draining of the pond or tank and then replacing the lost water.
• flow-through systems with the pond, tank or raceway remaining full through water entering and leaving the system at the same time from different locations.
• recirculating systems.

Filtration
The maintenance of water quality in tanks and aquariums can be assisted through a filtration system. The different types of filtration include:
• mechanical
• chemical
• biological.

Cleaning
Tanks should be cleaned regularly, by siphon or vacuum pump, to reduce problems with the accumulation of organic matter (uneaten food, faeces) and fouling organisms, bacteria and algae. Filters need to be backwashed regularly to prevent build up and decomposition of accumulating waste material. Floors and drains associated with tank rooms should be cleaned and sterilised on a regular basis.
Dilute pool chlorine or sodium hypochlorite (NaOCl 20 ppm) or caustic soda (NaOH 1%) are suitable cleaning agents for this purpose.

Food requirements
Type
Commercial diets are available from a number of feed manufacturers for marine and freshwater fish including diets for larvae, should be designed for the target species, lifestage and size. Commercial fish diets should be stored for as short a time as possible before use and kept cool and dry. If the diets are to be stored for longer than one month they should be kept in cool (<15ºC), dry conditions or frozen. Silver perch are often fed fresh or frozen bait fish or aquatic plant material. This food needs to be stored frozen and care must be taken to ensure it is not contaminated and does not deteriorate.
**Quantity and regularity**
Fish should be fed to optimise survival and growth. Each species should be fed appropriately. If fish are not feeding vigorously, excess feeding can adversely affect water quality. At such times feeding should be reduced or suspended until conditions improve.

**Normal behaviour**
Varies with species and therefore other references will need to be consulted for the type of fish you plan to keep.

**Signs of illness**
Signs of illness include skin lesions such as spots, fin erosion, gross colonies of bacteria, ulcers or growths, floating, listing, swelling of the body cavity and swimming upside down.

**Handling**
Fish must not be handled. A suitable net can be used to capture the fish.

**Euthanasia or humane killing**
Where fish become so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, euthanasia should be carried out. The preferred method of euthanasia is by a firm tap on the head with a suitable blunt object followed by rapid severing of the spinal chord.

**Disposal**
Fish should not be released into natural waterways without the appropriate licence.

**Suggested references**

**Websites**

Aquaculture council of WA, viewed 25 September 2008
www.aquaculturecouncilwa.com/home

Fresh water fish species in danger of extinction, viewed 3 March 2009

Native fish fact sheet, viewed 3 March 2009
Printed texts
Mc Dowell, R.M. (1996) Freshwater Fishes of South-Eastern Australia, Reed Books, NSW.

Contacts
Marine Teachers Association of NSW,
C/- Ballina High School, Locked Bag 1,
Ballina NSW 2478.

Approved activities: aquaculture

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Any activity that involves removing fish from the water is prohibited, except where transferring fish for cleaning or rehousing purposes. Removing fish from water to study respiration or circulation is no longer acceptable.

A. Very low impact activities

• Observation of normal behaviour of fish (Category 1)
This may include observing activities such as fish swimming, feeding and breathing. Observation does not involve capture and students must not knock on the tank.

• Fish photography (Category 1)
This can be conducted either in a small photography tank or in an aquarium. Provide supervision and care when transferring fish to the photography tank and be aware of the heat that may be generated by photographic lights. Very good results can be obtained using a short, telephoto lens fitted to a digital camera or a camera equipped with a 200 ASA film and a good lighting system. A teacher of photography may supervise this.
B. Low impact activities

- Capture, restraint of fish (*Category 2*)

To allow some management activities to be carried out, e.g. cleaning of the tank, moving fish to another tank, fish may need to be caught. This should be done using a suitable net and every effort should be made to ensure that fish are out of water for the shortest possible time. Well established routines should be applied to the care and feeding patterns used in the classroom to both minimise the frequency of cleaning and the moving of fish.

C. Standard husbandry activities

4.1 Slaughter/euthanasia of stock (*Category 5*) (further permission required)
Aquariums

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for the care and use of aquariums.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

In Australia, the common name for particular fish species is variable between states or even between different parts of the same state. For this reason, it is advisable to use scientific names. As there is a large variety of fish, this material can only provide information in general terms.

Keys and descriptions of species can be obtained from scientific publications. There is ample material about Australian marine and freshwater fish (refer to the list of references) and the fish department in the Australian Museum can be contacted for more details concerning identification.

A wide variety of fish species, both native and exotic, are available commercially. It is very easy to keep fish in an aquarium in the classroom. As an educational tool, aquaria can be used to study the habitats of fish, their reproductive and other behavior. With a small breeding tank, for example, students can watch the spawning, hatching and development of fish. In a school environment, it is much easier to keep, and maintain, freshwater tanks than marine ones.

Where different species are kept in a community environment, consideration must be given to species compatibility. It is important to note that, as some fish grow, they may bully smaller individuals, even of the same species. When considering which fish to use, your capacity to maintain and care for the fish should also be considered.
Thought must be given to the care of fish during school holidays and arrangements must be made for appropriate maintenance of the aquarium during these periods.

To collect freshwater fish from the environment in the ACT is illegal. An license may be obtained through the ACT Department of Territory and Municipal Services. In NSW you will need a permit from NSW Fisheries.

Varietal range difference there are some 25 000 species of fish divided into three groups: jawless, cartilaginous and bony. Many of these are suitable for school aquaria.

**Physical attributes**

- **Size:** the size of a fish will be determined by factors such as the size of the aquarium, number of other fish and availability of food. Goldfish and Rainbow fish range from 10–160mm.
- **Weight:** in an aquarium 2–250 g.
- **Range of breeding ages:** adulthood varies with the species. Spawning continues from adulthood to death.
- **Temperature:** fish are poikilothermic, that is, their body temperature is determined by their environment. References will need to be consulted for the physical attributes of particular species.

**Environment**

The least complicated environment is a natural pond in the school grounds. If this is not possible, an aquarium in the classroom is relatively simple to maintain. The tank needs to be kept at room temperature and should not be exposed to direct sunlight, as the sunlight will overheat the water and cause a rapid growth of algae. It should include plants and other invertebrates, and be allowed to stabilize for one to two weeks before the fish are added.

Filtration and aeration can be added to facilitate fish survival but each addition of physical support to the tank increases the probability of the system breaking down. It also adds to the amount of monitoring required. If tropical fish are to be kept, a heating and temperature control system must be used.

With a marine tank, the system becomes even more complex and is not recommended unless you have prior experience and success in another context such as at home.

The following points are general rules for preparing freshwater aquaria suitable for tropical and temperate fish species, including Australian native fish.

**Space**

The size of the aquarium depends on the size of the fish. A formula determines the maximum carrying capacity of an aquarium. This formula provides for around 1.5 cm length of a fish per 4.5 liters of water. More space is required if the tank is not
ventilated. One or two smaller ones, connected to an aerator, must be used for a 35–70 litre tank. More should be used for bigger tanks. Beware of oil scum on the surface of the water, as it will interfere with gas exchange.

**Covers**

In the school context, the use of a suitable cover is essential for all aquaria. This prevents fish from jumping out and dust and toxins, such as insect sprays, entering the tank. A glass or other solid cover should only be used if the tank is ventilated. For an unventilated tank, it may be necessary to make a frame and cover from suitable mesh. Appropriate care must be taken if insect spray is used. An additional cover such as a towel should be left in place for six hours after spraying the room.

**Temperature**

For most tropical and temperate fish, a water temperature range of 22–25°C is adequate. An aquarium heater may be used to control the temperature.

**Light**

The aquarium should not be exposed to direct sunlight as the sunlight will overheat the water and cause a rapid growth of algae. A diffused, filtered natural light can be used. If using artificial light, fluorescent tubes can be used for almost all aquaria. A timer must control the amount of light. Lights must not be suddenly turned on and off because some fish may become very nervous and move erratically around the tank. A dimmer light switch will avoid this problem. The correct lighting is very important for aquarium plants. In a new aquarium, 12 hours of artificial lighting each day should be enough for most aquatic plants. The exposure time may be increased or decreased until a good plant growth rate is achieved.

**Shelter**

An aquarium should try to replicate the natural environment of the fish.

**Bedding**

Washed river gravel is ideal as bedding. The bottom of the tank should be covered with an average of 75 mm.

**Filtration**

This process has a very significant effect on the water quality and fish health. The three types of filtration are mechanical, biological and chemical. The most popular and easiest to apply is mechanical filtration.

**Cleaning**

Water should be changed about once every one to two months. It is important not to replace all the water at once, 20–25% of the volume is sufficient. A major cleaning should be undertaken once every four months. The fish must be removed, placed in a container with 25% of the original tank water and covered. The walls of the tank must be cleaned carefully, with all chemical residues from the cleaning being rinsed away. Thoroughly wash sand and gravel to remove any accumulated debris. The tank should be two-thirds filled with tap water and allowed to stand for at least half a day before the remaining sand or gravel, water and fish are returned to the tank. Water is aged by leaving it stand for 24 hours or by using a chemical ageing agent.
Nesting
Details about breeding tanks vary with each species. Separate breeding tanks may be required.

Food requirements

Type
Tropical and temperate manufactured foods are required twice a day. If the fish is a native that has been collected, valuable information about food can be obtained by observation of the habitat and in reference materials. Other types of foods may be given, for example, frozen food mixtures, prawns, brine shrimp and mosquito larvae. Unless expert advice is available, commercially available foods are preferred.

Quantity
This depends on the type, age and number of fish in the tank. However, as a general rule, sufficient food that can be eaten within a few minutes should be given. Overfeeding can cause health problems.

Regularity
Feeding once a day is usually sufficient. Do not feed more than twice a day.

Water
For the first filling, tap water must be left to age in the tank for 24 hours before introducing plants or fish. The most important factors to be monitored are the water pH, dissolved oxygen and hardness. The recommended levels for a temperature of 20–25°C are pH 6.5–8, an oxygen level not less than 5 parts per million (ppm) and total hardness about 100 ppm.

Normal behavior
Varies with species and therefore other references will need to be consulted for the type of fish you plan to keep.

Signs of illness
Signs of illness include skin lesions such as spots, ulcers or growths, floating, listing and swimming upside down.

Handling
Fish must not be handled. A small aquarium net can be used to capture the fish.

Euthanasia
In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, and then euthanasia must be arranged with a person competent in the technique with this species.
Disposal

See *Disposal of Animals* on page 25, in Part A of the guidelines. Fish should not be released into natural waterways without the appropriate license.

Suggested references

Web sites


Recreational Fishing in the ACT, 2006, Department of Territory and Municipal Services, ACT Government, viewed 25 September 25 2008


Aquaculture council of WA, viewed 25 September 2008
www.aquaculturecouncilwa.com/home

Fresh water fish species in danger of extinction, viewed 3 March 2009

Native fish fact sheet, viewed 3 March 2009

Australian Aquaculture portal, viewed 3 March 2009

Printed texts

The following publications are useful for educational purposes and for establishing aquaria:


Contacts

Approved activities: aquarium

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

Any activity that involves removing fish from the water is prohibited, except where transferring fish for cleaning or rehousing purposes. Removing fish from water to study respiration or circulation is prohibited.

A. Very low impact activities

• Observation of normal behavior of fish (Category 1)
  This may include observing activities such as fish swimming, feeding and breathing. Observation does not involve capture and students must not knock on the tank.

• Fish photography (Category 1)
  This can be conducted either in a small photography tank or in an aquarium. Provide supervision and care when transferring fish to the photography tank and be aware of the heat that maybe generated by photographic lights. Very good results can be obtained using a short, telephoto lens fitted to a digital camera or a camera equipped with a 200 ASA film and a good lighting system. A teacher of photography may supervise this activity.

B. Low impact activities

• Appropriate care of classroom pets (Category 2)
  Students must only uncover the tank and feed the fish under supervision, according to a roster or when they have acquired the necessary skills. Students can change the water and clean the tank. In the case of major cleaning, fish must be removed from the tank, using an aquarium net, before the start of the cleaning process. Care must be taken to ensure that fish are out of water for the shortest possible time. Well-established routines should be applied to the care and feeding patterns used in the classroom. Routines for cleaning and maintenance must take into account school holiday times.
Australian native animals (excluding frogs and tadpoles)

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for the care and use of aquariums.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Native fauna is protected throughout Australia by State and Territory laws. In the ACT all native mammals, birds, reptiles and amphibians are protected by the Nature conservation act 1980. A licence is required to keep, possess, breed, buy, sell or dispose of native animals.

Under no circumstances should native animals be trapped.

Any teacher who wants to:
• keep native animals as pets
• keep and use native animals for educational purposes
• carry out research into protected fauna
• move native animals across state and territory borders ‘must’ obtain a licence from the Department of Territory and Municipal Services (TAMS).

A list of protected native bird species can be accessed from http://www.tams.act.gov.au/live/environment/native_plants_and_animals/native_fauna/protected_native_animals

A list of species of native birds and other animals that are exempt from the requirement for a licence is available

Any teacher who is planning to keep any species of native animal, other than the species listed as exempt, or who already keeps native animals for educational purposes must obtain a licence from TAMS. This licence allows the animals to be used for educational purposes and to be transported for holiday care.

**Suggested resources**

**Websites**

Kangaroos Kept Intentionally in Captivity

Wildlife – Injured, Sick or Orphaned

Department of Territory and Municipal Services, 2008, ACT Government, *Codes of practice* viewed 29 September 2008


How to live in harmony with the local wildlife that abounds in our Bush Capital

Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008


**Printed resources**


**Contacts**

The Animal Welfare Authority

Department of Territory and Municipal Services (TAMS)

PO Box 249

CIVIC SQUARE ACT 2608
Axolotls

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.


The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Environment

Axolotls should not be kept in aquariums with other species.

Adult supervision and a suitable retreat that minimizes stress from noise, light and sight should be provided.

In an enclosure, axolotls are vulnerable and will require protection from:
- vermin and household pets;
- escape;
- direct sunlight;
- air born contaminants such as aerosol sprays, smoke, vapours and fumes;
- chemicals such as cleaning products;
- extremes of temperature;
- excessive noise; and
- young children and rough or excessive handling.

Space

An aquarium, 60 cm x 40 cm x 40 cm, will house a full-grown pair of axolotls. The water height should be 20–25 cm or deep enough to cover the back legs of the axolotl. Tanks should either contain no gravel or have gravel large enough that it cannot be swallowed.
Enclosures for captive amphibians:
- should be constructed of material that is easy to clean;
- should be easily accessible to the handler for maintenance;
- should have adequate space for the given individuals to move and exercise; and
- should be well ventilated.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Water
This is the most important component of the axolotl’s environment. Never house them in extremely soft or distilled water. Remove any chlorine, chloramines or ammonia that may have been added as part of water treatment. Commercial preparations are available for this purpose or water can be aged. Keep the pH between 6.5 and 8.0. Filtration is necessary to provide adequate oxygen levels in the water. (See filtration below)

Temperature
Axolotls thrive at cool temperatures. The optimum range is 15–18°C. They should never be kept above 22°C. To prevent overheating, never house axolotls where they are exposed to direct sun. During heat waves, evaporative cooling can be provided by draping a damp towel over the tank with, if necessary, the towel ends in a water bowl and a fan for air movement.

Lighting
Axolotls prefer dim light. Normal indoor lighting, without aquarium lights, is sufficient. If the tank is brightly lit for the benefit of live water plants, then darker areas must also be established. Ultra violet lighting suitable for ‘reptiles’ can be used to ensure adequate UV lighting for the production of Vitamin D. Care needs to be taken to ensure this is not bright or strong for the Axolotl. Other forms of UV lighting are not suitable. A day/night cycle similar that follows seasonal change is recommended.

Ventilation
An aquarium lid is not necessary if the water surface is at least 7 cm lower than the top. The tank should be aerated as axolotls extract oxygen from the water through their gills. In laboratory settings, a mesh or other suitable cover, may be appropriate.

Filtration
Rapidly circulating water is stressful to axolotls. If filtration is used, the rate of circulation should be approximately 4 to 5 times an hour.

Shelter
A clump of water plants or a rocky overhang provides a refuge from bright lights and from other axolotls. Water plants or submerged rock can be used to allow axolotls to escape from deep water.

Cleaning
Weekly partial water changes, involving removal of about 25% of the water, is recommended, using conditioned water of the same temperature. Regular removal of solid waste is necessary. Bacterial scum that grows on the aquarium must be
removed regularly as it can affect the axolotl’s skin and cause toe loss. Once the water has been removed, the tank can be cleaned safely with a scour pad dipped in a mixture of baking soda and salt at a 2:1 ratio. Rinse the tank gently and fill with conditioned water. Avoid bleach, detergents and disinfectants in the tank. Prior to disposal of the waste water, add a bleach solution of one part bleach to five parts water. Pour the water down a toilet bowl. Untreated water should not be discarded into stormwater drains or septic tank systems.

**Substrate**
Substrates should either be avoided or be large enough to not be swallowed and cause constipation.

Any material used on the bottom of your enclosure will need to be:
- Easy to clean;
- Free of bacteria;
- Non-adherent.

New substrate to be introduced to a tank should be disinfected by thoroughly drying either in sunlight or by drying in a slow oven for 2 – 3 hours with frequent turning.

**Breeding**
Breeding should be avoided in schools where possible. If carried out, then re-homing must be considered and suitable homes found. Licensing for the sale of axolotls is required. (See codes of practice for further information).

**Quarantine**
Five weeks of quarantine in a separate enclosure is recommended before an axolotl is introduced to a tank containing other axolotls. Sick animals should be removed and placed in quarantine while recovering.

**Food requirements**

**Type**
Earthworms, insects, small crustaceans; narrow strips of raw lean beef, fish or chicken, fed by hand and wiggled; many will learn to take pellet food for carnivorous fish, e.g. salmon pellets with a preference for softer pellets. Hatchlings take brine shrimp, tubifex worms, water fleas and small insects.

**Quantity**
Feed adults three times a week, with as much as they will consume within about one hour. Feed juveniles more often. Remove uneaten food and excreta promptly.

**Essential dietary needs (variations)**
Axolotls require a variety of food items, as monotonous diets may cause nutritional deficiencies.
Normal behaviour

Axolotls are more active at night than during the day. In bright light, they tend to rest under cover of vegetation or under overhangs. Axolotls are cannibalistic when different size ranges are kept together or if they are underfed.

In checking the daily health of an Axolotl, consideration should be given to:
- posture and attitude in and out of water
- activity level in and out of water
- response to stimuli including handling
- withdrawal reflex and the ability to right itself
- assessment of body condition
- assessment of state of hydration
- appetite and dietary history, and
- observing faecal matter for any abnormalities.

Signs of illness

The axolotl may show signs of:
- loss of appetite
- deterioration of the gills
- jaundice
- skin lesions
- back deformities
- poor balance while swimming
- injuries to limbs, gills or tail

A failure to thrive or grow is another sign of illness.

If unable to identify and correct the cause of ill health, assistance from a veterinarian familiar with axolotls should be sought. Aquarium fish remedies can be toxic to axolotls and should not be used without consultation with an expert. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

Handling

Axolotls should be handled as little as possible and should not be kept out of water. When capture is necessary, an aquarium net should be used. Axolotls are best examined in clear, watertight plastic bags, half-filled with water.

Care should be exercised when handling is necessary to prevent injury and discomfort to the animal. The animal’s abdomen should be supported by the palm of the hand with the other hand placed over its shoulders to prevent escape. Amphibians should be held securely, but not tightly, as their bones are fragile.
Transport

Axolotls are sensitive to sunlight so it is preferable to transport them in a darkened container using its own tank water. Do not place heavy rocks or decorations in the tank as they could move and injure the amphibian. They should be transported in a sealed plastic container with a small amount of cotton wool soaked in water. Transport time should be kept to a minimum. If a brief stop is required during travelling, the vehicle should be left in a shady spot with fresh air circulating. If a longer stop in required, (longer than 30 minutes) remove the animals from the vehicle and keep them in a cool place.

Euthanasia

Where an animal becomes so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a veterinarian.

Disposal

Axolotls are an introduced species and must never be released into the environment.

Suggested references

Web sites


http://www.axolotl.org/

Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008

Printed texts

Approved activities: axolotls

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.
A. **Very low impact activities**
   - **Observation of normal behaviour of axolotls** *(Category 1)*
     This may include observing activities such as axolotl swimming, feeding and breathing. Observation does not involve capture and students must not knock on the tank.

B. **Low impact activities**
   - **Appropriate care of classroom pets** *(Category 2)*
     Students must only uncover the tank and feed the axolotl under supervision, according to a roster or when they have acquired the necessary skills.
This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0013/13045/captivebirdwelfare-codeofpractice.pdf

A list of protected species is available at: http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/protected_native_animals

A list of species that can be held without a license is available at: http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/exempt_animals

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Varietal range difference

These guidelines are suitable for the variety of birds commonly kept as caged pets such as budgerigars, canaries and finches.

Basic requirements

- accommodation designed to suit the birds’ physical characteristics and behaviours
- space enough to fly, roost and elude other caged birds
- shelter from draught, direct sunlight through windows and a capacity to control temperature, ventilation and lighting
- protection from menace or intimidation by predators
- feed and water to provide essential nutrients
• protection from disease
• regular surveillance to detect problems.

Environment
In the design of any bird cage, the ratio between the length and width of the cage, at right angles to each other, should not exceed 4:1 unless the shorter of these two lines is at least 900 mm long. The shorter distance should be at least twice the span of the wings of the largest bird to be kept in the cage.

Cage construction should be of strong impervious materials that can be thoroughly washed and sterilized.

Metal perches are unsuitable. Wooden perches must be provided and have a diameter and length that enable every bird in the cage to perch comfortably. Perches should not impede lines of flight or be placed directly above other perches or food and drink containers. Hanging decorations, toys and vegetation inside the cage should not be allowed to clutter the cage or impede lines of flight.

Steps should be taken to ensure that, as far as practicable, birds can be attended to promptly in the event of fire, flood, injury or disease.

Food and water requirements

Food
Adequate food suitable for the needs of the particular species of bird should be available at all times. Containers used to supply feed should not be constructed or used in a manner that may cause injury to the birds. They should be situated in cages in a position where the food is least likely to be spoiled or contaminated by faeces. Food should be changed daily and stale food removed.

A varied diet should be supplied, alternating regularly between fresh fruit, vegetables and seeding grasses, as appropriate to the bird species being fed. Mixed grit and a source of calcium should be available.

Water
Clean, cool water must be available at all times. Water containers should not be located in direct sunlight or placed in positions where they are likely to become contaminated by faeces. Containers should be kept in a clean condition, free of foreign matter, through weekly washing with a low toxicity disinfectant and rinsing.

Handling
Birds should be conditioned to accept handling. They need to be handled calmly and with care. Training birds to accept transfer between cages on a daily basis ensures that they can be handled easily, provides a level of environmental enrichment and may ameliorate territorial behaviour.
Normal behaviour

A caged bird is normally alert with an erect carriage. Caged birds should be able to fly freely. The cutting of feathers or pinioning of wings, unless advised by a veterinarian for therapeutic reasons, must not occur.

Disease prevention

Disease control methods, and internal and external parasite control programs, should be developed in consultation with a veterinarian. All action should be documented in the appropriate records.

Signs of illness

Birds may show:

changes in:
- appearance of droppings
- food or water consumption
- attitude or behaviour
- appearance or posture
- bodyweight
- rate or depth of respiration;

or evidence of:
- enlargements or swelling
- vomiting, injury or bleeding
- discharge from nostrils, eyes or beak.

A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill health, assistance from a veterinarian, familiar with caged birds, should be sought. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

Euthanasia

Where an animal becomes so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a veterinarian.

Disposal

Caged birds can be sold privately. Carcasses must be disposed of in accordance with local council regulations.
Suggested resources

Web sites


Department of Territory and Municipal Services, 2008, ACT Government, viewed
29 September 2008
animalwelfarestandards-codesofpractice

Printed texts
Robertson, imprint of Harper Collins Publishers, Sydney

Handbooks, New York.


Handbooks, New York.

Approved activities: birds

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these
guidelines. The letters and numbers used in approved activities correspond to
those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these
guidelines.

A. Very low impact activity

• Observation of normal behaviour *(Category 1)*
Observation does not involve capture. Care should be taken to limit the noise and
activity of students during observations, especially for birds which are not tame.
Allow as much distance as possible between the students and birds. Students
should be encouraged to use binoculars or a camera with a telephoto lens.

B. Low impact activities

• Capture, restraint and handling *(Category 2)*
Only birds that have been conditioned to accept handling should be used for this
activity. To avoid stress, birds must be held for the least time possible. Captures
should not be repeated.
Before a bird is released, it must be given a clear view of the release environment to avoid blind collision. Prolonged activity in one aviary should be avoided as all birds, not just the target one, will become stressed by the presence of people.

C. Non-invasive measurement of

6. respiration (Category 2)
Respiration should be measured by observation only and not by captive methods. Time the rise and fall of the breast region. Keep your distance and minimise noise.

D. Measurement of mild dietary effects

4. palatability (Category 3)
Palatability may be tested by offering a range of foods simultaneously and observing birds preferences or by comparing volumes of various feeds eaten. Timing the period taken for birds to investigate and begin consuming newly introduced feed types would be appropriate. High sugar feeds or other unsuitable feed types should not be given, nor should the bird be deprived of its regular diet. Ensure that students are aware that foods that are suitable for humans may NOT be appropriate for birds. Chocolate, coffee and avocado are poisonous to birds.

E. Behaviour activities

2. taming/gentling (Category 3)
3. training (Category 3)
Because of the time involved in training parrots, it is unlikely that this activity would be carried out in schools. A teacher, using an already trained bird, may choose to demonstrate the principles involved. Parrots can be tamed and trained to perform a vast range of tricks and activities including speech. The birds should be rewarded for desirable behaviours, generally with food, but normal feeding must not be withheld or overlooked. Punishment, especially physical forms, should not be used as a deterrent for undesirable actions. Reward the bird’s spontaneous actions that approximate desired behaviour. Repetition is the key to success and it may take years to perfect the performance of a single desired action on command.

F. Collection of samples from livestock

1. feathers (Category 2)
Feathers found in the cage should be used rather than attempting to take feathers from the bird. Feather plucking involves stress.

G. Standard husbandry activities

1. administering treatments
topical
• spray (Category 3)
oral
• drench (Category 3)

injection
• subcutaneous (Category 3)
• intramuscular (Category 3)

It is important to maintain a program of parasite control for all birds. When treating for internal and external parasites, all birds should be treated at the same time. Vaccination should be carried out by a veterinarian unless an experienced aviculturist is present. All activities need to be documented in the appropriate records. When using drenches, external parasite control chemicals or any other animal care chemicals, care must be taken to:
• read all labels
• maintain appropriate storage
• adhere to withholding periods
• determine the weight of animals
• determine the correct dose rate
• use protective clothing if required.

Oral medications such as worming compounds and vitamin and mineral supplements may be administered in the feed or water. Check the instructions. Water is generally withdrawn from birds overnight to increase the bird’s thirst prior to administering medications in the water. Avoid water withdrawal during the day particularly in hot weather. Drink containers need to be suitably anchored to prevent tipping.

It is possible to control mites and lice by hanging a pest strip in the area where birds roost at night. Only pyrethrin based insecticides should be used in cages and only in accordance with directions on the labels.

2. toe nail trimming
Toe nail trimming should only be carried out by experienced handlers. Excessively long toe nails should be trimmed without drawing blood, but toes should not be cut with the intent of permanently preventing nail growth. Overgrown nails, particularly in small cages, may be indicative of inadequate conditions.

3. beak trimming
Beak trimming must be performed only by an accredited operator and must be performed only in accordance with agreed accreditation standards.

4. transportation
Transport inevitably causes stress and therefore should be kept to the minimum necessary.

Transport cages should not be too large but should be spacious enough for the birds to move around. For some species the roof of transport boxes should be padded to prevent head injuries. Other species may require transportation in bags e.g. pheasants. Containers should be darkened. All wire metal cages should be covered with dark cloth during transport, taking care not to obstruct ventilation.
Feed should always be available during transport, especially for small or young birds, and water should be provided at intervals, especially in hot periods. An exception to this advice is that chickens being transported in the first 24 hours of life, do not require food or water in normal circumstances. Birds do not tolerate extremes of temperature and should not be left in parked vehicles in the sun or hot weather.

5. **quarantine**

Newly acquired birds should be quarantined for a suitable period for treatment and observation before being released into permanent housing. After quarantine a bird should only be released into new surroundings early in the day to allow time to adjust to the new environment by nightfall. The exception to this is when poultry are being introduced to other unfamiliar poultry. This should always be done during the night-time to reduce the risk of injury due to fighting.
Cats

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The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools.

Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

When cats visit classrooms, it is inappropriate to subject them to any procedures other than observation, discussion of behaviour and limited, well-supervised handling.

Cats are not considered suitable animals for housing at school.

**Varietal range difference**

Many different and distinct breeds exist. Cats can usually be divided into two groups:

- Long hairs
- Short hairs.

**Physical attributes**

Length: 50–70 cm head to tail tip
Weight: 3–7 kg
Breeding age: from 4–5 months old
Number of offspring: 1–9
Weaning age: 5–8 weeks
Gestation period: 58–65 days
Healthy characteristics: temperature: 37.5°C
Heart rate: 70–150/minute
Respiration rate: 0–100/minute.
Environment

Cats like safe, secure areas to sleep in and tend to like height where possible. A box enclosed on three sides or an open transport basket are suitable. They like bedding, so washable blankets or towels are very suitable.

Cats bury their faeces and urine so, when kept indoors, they must be provided with a litter tray. This is best made of plastic to allow for easy, regular cleaning and disinfecting. It should contain fresh soil, wood shavings or some other absorbent material designed for this purpose. The litter should be changed at least once daily to prevent a build-up of contaminated material and odours. Good ventilation is important. Litter trays need to be in a quiet area where there is minimal chance of disrupting the cat.

Food and water requirements

Cats must be fed a balanced and nutritious diet appropriate to their level of development.

Weaned kittens, up to three months old, must be fed twice a day or can be fed ad lib as they learn to eat only what they require.

Older cats, which have been fed at certain times, should not be changed to ad lib feeding as they tend to gorge and overeat, leading to obesity.

Adult cats must be fed at least once a day. Every adult animal should be fed from an individual, clean food bowl. Pregnant or lactating cats should be fed at least twice daily.

A cat’s food must be stored and prepared hygienically to ensure that it remains fresh and uncontaminated. Fresh water must be freely available at all times.

Handling

Cats need to be handled calmly and with care to prevent distress and injury to both the animals and the handlers.

Cats should be lifted by supporting their chest and rump. They should not be pulled up by the front legs and adult cats should not be lifted by the scruff.

Cats should be transported in a secure wire, plastic, wood or a strong, cardboard container.

Normal behaviour

Cats are solitary in the wild but enjoy human company when raised domestically. They normally sleep for much of the day and, when awake, spend a lot of time grooming themselves.

Cats use claws and teeth for defence and, if aggressive, over stimulated or threatened, they may scratch and bite. Cats showing difficult temperaments should not be used in the school situation.

It is recommended that cats be desexed at the appropriate age.
Disease prevention

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities should be documented in the appropriate records.

Signs of illness

A sick cat may show any of the following:

• lethargy
• loss of appetite
• unkempt coat
• lameness
• coughing
• sneezing
• diarrhoea
• excessive dribbling
• drooping tongue
• runny eyes or nose.

Cats suffering stress often display one or more signs of ill-health. If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with cats. Any signs of illness or injury, and treatments given, should be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

Disposal

A disposal plan needs to be considered before using an animal in any program.

Suggested resources

Websites

Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008

www.aspca.org/media

RSPCA, 2007, RSPCA.org, viewed 29 September 2008
www.rspca.org.au
Approved activities: cats

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activities:

• Observation of the normal behaviour of animals (Category 1)
In the classroom situation, it is unlikely that students will be able to observe the normal behaviour of a cat. Observation may be an appropriate homework activity.

B. Low impact activities:

• Capture, restraint and handling (Category 2)
Students must be instructed on appropriate methods of handling. Do not allow too many students to handle a cat at the same time.
Cattle

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0016/13822/cattlewelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report forma and forwarded to workplace relations and Government Legal and Liaison section.
Varietal range difference

Many different and distinct breeds exist. Cattle are usually divided into two groups:

- Dairy cattle used for milk production, e.g. Fresian, Jersey and Illawarra
- Beef cattle used for meat production, e.g. Hereford, Angus, Murray Grey and Brahman.

Physical attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>varies greatly between breeds. Mature heights up to 1.5 metres</td>
</tr>
<tr>
<td>Weight</td>
<td>varies greatly with breed and stage of growth, may vary from 400 to 800 kg</td>
</tr>
<tr>
<td>Age at adult size</td>
<td>varies between breeds, between 2 and 4 years</td>
</tr>
<tr>
<td>Weight at birth</td>
<td>small breeds 15–20 kg large breeds 35–40+ kg</td>
</tr>
<tr>
<td>Gestation period</td>
<td>average 282 days, range 275–290 days</td>
</tr>
<tr>
<td>Number of offspring</td>
<td>normally one</td>
</tr>
<tr>
<td>Range of breeding ages</td>
<td>mating begins from 15–18 months, reproductive life 8–10 years</td>
</tr>
<tr>
<td>Weaning age</td>
<td>6–8 months</td>
</tr>
<tr>
<td>Healthy characteristics</td>
<td>Temperature: 38.6°C, range 37.0º–39.3°C</td>
</tr>
<tr>
<td></td>
<td>Respiration rate: 20–40/min</td>
</tr>
<tr>
<td></td>
<td>Heart rate: 40–100/min</td>
</tr>
<tr>
<td></td>
<td>Other: moist muzzle, active and alert, glossy coat, clear bright eyes.</td>
</tr>
</tbody>
</table>

Environment

Cattle may be kept in extensive situations in a paddock. More intensive situations, such as feedlots are not recommended for schools other than for short periods of time. Cattle perform well in an open pasture that has plenty of available water as well as shelter from wind, rain and sun. The minimum space required in extensive situations is 0.5 ha per head assuming the pasture is balanced and well maintained.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

For cattle kept in intensive situations, care must be taken with the following:

**Movement and exercise**

Cattle should be exercised daily.

**Temperature**

Heat stress can be a concern. In stalls, provide adequate ventilation; in feedlots, access to shade, such as trees or shelter, is preferable.

**Light**

No special requirements.
Ventilation
In stalls, allow free air movement without creating draughts.

Bedding
Suitable materials for stalls include straw, sand or sawdust. Suitable drainage needs to be provided.

Cleaning
Clean the stalls daily.

For further information about yarding, please refer to pages 5 and 6 of the ACT Code of Practice for the Welfare of Animals - Cattle

Feedlot operations must comply with conditions specified in the following publications:
National Guidelines for Beef Cattle Feedlots in Australia (2nd edition), Standing Committee on Agriculture and Resource Management.

Food and water requirements
Cattle are most efficient, in terms of digestion, with good quality pasture comprising a balance of grasses and legumes. Fresh, clean water that is readily accessible is also needed for efficient growth. Care must be taken when cattle are put on pastures with a high legume content as bloat can occur.

Remember, when feeding by hand, the rule is to introduce new food types slowly and carefully, do not feed excessive grains, feed plenty of high quality roughage and feed small amounts at frequent intervals.

Monitoring of live weight or condition scoring will indicate the adequacy or otherwise of the feed conditions.

Type
Young calves: suckle on cow or use milk replacer. Older cattle: grazing is the most economical. Supplementary feeding with hay and concentrate mixes may be necessary. If the cattle are solely grazed, a local veterinarian should be consulted to determine if there is a need for specific supplementation.

Quantity
Varies with weight, stage of growth and stage of production. As a guide, an average 450 kg cow requires 0.5 ha of good quality pasture. To hand feed the same cow requires approximately 10 kg of concentrates plus hay, each day.

Regularity
For hand feeding, provide food twice daily for young calves and daily for other cattle.

Important dietary needs (variations)
Newborn calves must get colostrum in the first 24 hours.
Water
A clean, fresh, reliable supply is necessary. As a guide, a small cow will require 30–50 litres per day and more if she is lactating. For cattle kept in intensive systems, feed bins should be off the ground and automatic waterers, which supply clean, fresh water at all times, should be installed and checked daily.

Handling
Cattle need to be handled calmly and with care to prevent distress and injury to the animals and the handlers. A set of solid yards, preferably including a race and crush or headbail, is necessary for the adequate handling of cattle.

The use of cattle prods should be discouraged. Cattle that are kept in schools should not require this handling technique. If, in exceptional circumstances, a cattle prod is needed, only the teacher should use it.

For specific handling techniques, see the Approved activities: Cattle.

Normal behaviour
Cattle in the school situation should be docile, spending most of their time grazing or chewing the cud. They are social and will herd if kept in numbers.

Cattle showing difficult temperaments should be culled and not used in the school situation.

Disease prevention
Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities should be documented in the appropriate records.

Movement of cattle
There are a number of restrictions relating to the movement of cattle. To ensure you abide by the appropriate legislation, contact the Department of Municipal Territories for ACT requirements, and the Rural Lands Protection Board or NSW Agriculture for NSW requirements.

Signs of illness
The first sign noticed is a change in the animal’s natural demeanour. It may be listless or lethargic. Closer examinations may show:

variations in:
• body temperature
• gastrointestinal function such as diarrhoea, weight loss or loss of appetite
• urogenital function, e.g. abortion, infertility or abnormal discharges
• respiratory function such as persistent coughing, gasping or panting; or
evidence of:
- skin condition such as lesions or abnormal growths
- a tucked-up appearance, stiff gait, abnormal posture, patchy coat or loss of hair
- excessive scratching or rubbing
- swollen joints or lameness
- bellowing.

A failure to thrive or grow is another sign of illness. Common ailments may include mastitis, bloat, internal parasites or milk fever.

If the cause of ill-health cannot be identified and corrected, assistance should be sought from a veterinarian who is familiar with cattle. Any signs of illness or injury, and treatments given, should be documented in the appropriate records.

Euthanasia

Where an animal has become so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, euthanasia must be arranged with a local veterinarian.

Disposal

Cattle can be sold privately, at auction or consigned to an abattoir. Carcasses must be disposed of in accordance with local council regulations.

Suggested resources

Websites
Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008


University of California, Davis, Veterinary Medicine Extension, 2005-2008, University of California, viewed 29 September 2008
www.vetmed.ucdavis.edu/vetext/home.html

Printed texts

The care and use of animals in ACT schools

NSW Agriculture Agfacts. Information sheets, Australia.

NSW Agriculture Agskills. Home Study Program developed at C. B. Alexander College, Tocal, Australia.


Contacts

The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608

Local Council

Local farm supplies trader

Approved activities: cattle

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 55, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

A. Very low impact activity

• Observation of the normal behaviour of animals (Category 1)

No special equipment is necessary. A suitable grazing area is required. Refer to feed and water requirements and environment.

B. Low impact activities

• Capture, restraint and handling (Category 2)

Students must be instructed on methods of herding and restraint before participating in these activities. In particular, do not allow students to baulk cattle at the approach to the yards, the race, the crush or the headbail, causing repeated attempts to
The care and use of animals in ACT schools

To avoid injury to bones, teeth and horns, care is necessary when closing headbails and calf cradles.

C. Non-invasive measurement
1. body weight (Category 2)
2. body condition by visual assessment or condition scoring (Category 2)
3. growth (Category 2)
4. body proportions (Category 2)
5. pulse or blood flow (Category 2)
6. respiration (Category 2)
7. skin temperature (non-invasive) (Category 2)
8. age by dentition (Category 2)
9. scrotum and testicles (palpation) (Category 2)

To obtain accurate measurements, the cattle must be calm. Only animals that are accustomed to being handled should be involved. After capture, it may be necessary to allow the cattle to stand undisturbed for a time to normalise. Stress due to handling may affect measurements.

E. Behaviour activities
2. taming and gentling cattle (Category 3)
3. training for competition or showing (Category 3)

Restricting the area available to cattle and making them dependent on hand feeding will facilitate the taming process. Ensure that hand feeding is regular, especially over weekends.

Close supervision of students is necessary to ensure calm, gentle handling. Remember, cattle respond to kind, gentle treatment, positive reinforcement and repetition. They also remember mistreatment for a long time. Due to the size of these animals, care must always be taken.

In the school situation, the work usually required in training an animal for leading and showing is generally considered as taming and gentling, rather than breaking-in. It is preferable if animals used in the school situation do not require breaking-in.

5. breaking-in cattle (Category 4)

Training should begin while animals are young, with a body weight under 200 kg. Cattle should be restrained before a halter is put on. While the animal is still restrained, with the halter in place, gentle grooming and handling will reduce distress. Avoid sudden movements and loud noise near the animal. When the animal is first tied up, make sure it is tied to a solid object by a short lead. When releasing the animal, it should be given a reward, such as some palatable food, so that it associates something pleasant with the experience. Do not attempt to lead the animal until it is tamed and will allow grooming and handling in the tied position.
F. Collection of samples from livestock

2. milk (Category 2)
3. faeces and urine (non-invasive) (Category 2)
5. saliva (Category 3)

Only cattle that are accustomed to handling should be used for these activities. They should be adequately restrained in a crush, milking bail or halter and tied up securely. Feeding the animal whilst collecting samples can have a calming effect. Before collecting milk, ensure that hands are thoroughly washed. Wash teats and stimulate let down. After collection, teat(s) should be dipped to prevent infection.

When collecting faeces and urine samples, gloves should be worn and hands washed after completion of the activity.

When collecting saliva, the animal’s head should be restrained securely. Injury can occur to the animal or handler if the animal throws its head violently.

4. faeces (invasive) (Category 5)
6. ruminal fluid (Category 5)
7. blood (Category 5)

G. Standard husbandry activities

Note: when carrying out several operations on the one animal at the one time, e.g. calf marking, plan the operations so that the one causing most stress is performed last.

1. administering treatments

   topical
   • backline (Category 3)
   • spray (Category 3)
   • dip (Category 3)

   oral
   • drench (Category 3)

   injection
   • subcutaneous (Category 3)
   • intramuscular (Category 3)

It is important to maintain a program of vaccination and control of all internal and external parasites for all cattle. When treating for internal and external parasites, all animals should be treated at the same time and pastures should be rotated in conjunction with the drench program. These programs need to be documented in the appropriate records.
When using vaccines, drenches or any other animal-care chemicals, care must be taken and noted about the following:

- reading all labels
- maintaining appropriate storage
- adhering to withholding periods
- determining the weight of animals
- determining the correct dose rate
- using protective clothing if required

When injecting cattle, ensure the needles are sharp and sterile, and that each animal is adequately restrained. Intramuscular injections should be administered into the neck. Choose the site for the injection and clean away loose dirt. After the injection, remove the syringe before the plunger is released.

1. **administering treatments**

oral

- **winged capsule, (e.g. Rumensin)** *(Category 4)*

The administration of Rumensin (anti-bloat capsule) is classified as a winged capsule and should only be given as part of a management program. The animal’s head must be firmly restrained and the nose raised. The applicator should be carefully placed at the back of the throat. When the animal swallows, introduce the applicator into the oesophagus and down to the rumen. Then, discharge the bloat bomb. Observe animals for 30 minutes after application to ensure the medicine is not regurgitated. Reapply if necessary.

Injection

- **intrauterine pessaries** *(Category 4)*

The introduction of Controlled Intravaginal Releasing Device (CIRD) is classified as administering an intrauterine pessary. Ensure equipment is cleaned after each application. Carefully introduce the loaded applicator to the cow’s vagina and, when the applicator is in position, discharge the CIRD.

2. **coat care and grooming** *(Category 2)*

3. **coat clipping** *(Category 3)*

Grooming is an excellent method of gentling animals and is necessary for show preparation. The type of restraint required depends on the type of animal being groomed. Avoid overwashing as this will remove too many natural oils from the coat. If an animal is rugged, make sure that the rug is fitted correctly to avoid chaffing. If rugging in summer, be careful not to overheat the animal. Clipping is usually only necessary for show animals or to remove excess hair before branding. When clipping show animals, take extra care around the head. If the animal is frightened or moves suddenly, damage to eyes or ears can occur.

4. **ear marking and tagging** *(Category 3)*

Both these operations are more difficult with older, stronger animals and only an experienced person should perform the operations on these animals. The head must be firmly restrained to avoid tearing the ear. Equipment should be checked for sharpness and smoothness of action before use. It should be thoroughly cleaned.
before and after use. Position ear tags between the two main veins and the cartilage ridges. Ear tagging tools vary between brands so ensure the manufacturer’s instructions are followed.

5. tattoo application (Category 3)
Ensure the head is thoroughly restrained. Before applying the tattoo, clean the ear with methylated spirits or soap and water. Position the tattoo between the main veins and the cartilage ridges as shown in the diagram above.

6. hoof trimming (Category 3)
While hoof trimming can be done on cattle when the animal is standing, it is safer to use a tilt tray, if available. To avoid taking off too much and causing bleeding or damage, the horn of the hoof should be cut back in several stages. Students should receive prior instruction on hoof structure to help avoid cutting into sensitive tissue.

12. milking (Category 3)
Feeding the cow while it is milking can have a calming effect and is a useful way of providing concentrates to the animal. Ensure that hands and collection equipment are thoroughly washed. Wash teats and stimulate let down before collecting the milk. Let down is interrupted if the cow is frightened. After collecting the milk, teats should be dipped to prevent infection. Damaged teats need to be hand stripped. Students should be closely supervised to ensure milking machines are not left on too long.

14. nose ringing (Category 5)

15. loading cattle (Category 3)
Ensure that the truck to be loaded is backed properly into the loading ramp, with no gap between ramp and truck and no large step, either up or down. Cattle should be held quietly in a holding pen at the back of the loading race. When all is ready, cattle should be coaxed firmly along the race and into the truck. Cattle should move as a group and not individually.

19. fire branding (Category 4)
Calves should be at least three months old before branding. Animals must be securely restrained with the left (near) side rump exposed. The correct heat of the iron is blue hot, red hot is too hot. At the correct temperature, the iron will readily burn into a flat dry board. Never brand cattle when the hide is wet as this will result in scalding. If the area to be branded is thickly coated, it should be clipped first. Only use small brands on calves as the brand grows with the growth of the hide.

20. freeze branding (Category 4)
The animal must be securely restrained. Prior to applying the brand, the area to be branded must be closely clipped and swabbed with methylated spirits. Shake off the cooling mixture from the brand before applying it to the animal. The cooling agent mixture is dangerous if it contacts the skin of the operator.

25. castration of immature calves (Category 4)
• elastrator (under 6 weeks)
• knife
• emasculators
The method used will depend on the expertise available. All methods involve some stress, however, it is important not to prolong the operation by stopping for a detailed explanation of each step carried out. The details should be explained before or after the operation. Ensure that the animal is adequately restrained in a cradle or held by experienced handlers. Aftercare is important and, irrespective of the method used, the animal should be checked daily until it is fully recovered. Elastrator rings should not be used in calves over six weeks of age.

Castration by knife should be carried out before 12 weeks of age. Antiseptic must be used.

Castration using emasculators can occur up to six months of age. The animal should be properly restrained, that is, immobilised and the emasculators applied to the cords and arteries of each testicle individually. Appropriate size emasculators must be used.

Note: it is illegal to castrate an animal after six months of age unless a veterinarian does it and the animal is appropriately anaesthetized.

31. artificial insemination (Category 5)

32. semen collection (Category 5)

33. pregnancy detection rectal (Category 4)
In the early stages of pregnancy accurate diagnosis by rectal palpation is very difficult and should be carried out by a veterinarian.

Restrain the cow. In case the cow falls, ensure there are no barriers, such as crush gates, between the cow and the operator. To avoid agitating the cow, ensure that students watching the demonstration remain quiet. Supporting resources such as a wall chart or diagram would be necessary to show the actual procedure.

35. microchip tagging (Category 4)
The head must be firmly restrained and the equipment cleaned to avoid infection. The microchip should be placed under the skin at the back of the ear or according to the manufacturer’s instruction.

36. horn tipping older cattle (Category 3)
The animal should be restrained in a headbail. Dehorners are placed on the horn so that no more than the outer third of the horn is removed. Surgical wire can be placed at the outer third of the horn before it is sawed off.

37. dehorning cattle under six months of age (Category 4)
Only people with demonstrated expertise should undertake this activity. Cattle must not be dehorned when the weather is cold, wet and windy. In order to control blood loss, infection and flystrike, monitoring and care must be carried out in the first few days after completing the activity. Fly repellent may be used in order to control flies.

39. disbudding calves (Category 4)
This procedure is best carried out on calves in their first two weeks of life. Only people with demonstrated expertise should undertake this activity.
Young calves should be restrained and a local anaesthetic used before the horn buds are removed. This procedure can be done by using a hot disbudding iron or scoop dehorners.

Calves must be checked after two or three weeks as regrowth can occur if the procedure is not correctly performed.

Over 12 months of age, cattle can only be dehorned by a veterinarian.
Dogs

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.


The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools.

Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

In general, dogs are not considered suitable animals for housing at a school.

When dogs visit a classroom, it is inappropriate to subject them to any procedures other than observation, discussion of behaviour and limited, well-supervised handling.

Varetial range difference

There is an enormous range of dogs kept in Australia. They are grouped according to original breed, use or type:

- Toys, including Maltese and Chihuahuas
- Terriers, including Australian Terriers and Airedales
- Gundogs, including Spaniels and Pointers
- Hounds, including Beagles and Whippets
- Working, including German Shepherds and Kelpies
- Non-Sporting, including Dobermans and Samoyeds
- Utility, including Boxers and Schnauzers.

Section 14 of the Companion Animals Act (1998) prohibits dogs on school grounds except where the principal gives permission. Dogs must be kept on a leash in school grounds.

When selecting dogs to visit schools, particular attention should be given to the suitability of the dog’s temperament.
Dogs that have difficult temperaments and are fearful, timid or dominant, should not be used in the school situation.

Any dog that has been declared dangerous under section 33 of the Companion Animals Act must not be allowed on school grounds. Local councils retain this information.

**Working dogs such as sheepdogs and cattledogs**

Should working dogs be brought into schools with large animals, the care of these animals is the responsibility of their handlers who are expected to be skilled in the care and handling of their dogs.

All relevant vaccinations and parasite control should be up-to-date, regularly performed, as per veterinary recommendations, and documented.

It is expected that when these dogs are being used to assist with handling of livestock, they have been suitably trained. This should protect both dogs and livestock against injury. The following welfare points should be considered:

- do not muster or herd animals in extreme environmental conditions
- do not allow dogs to bite or worry livestock
- excessive barking of dogs and yelling of handlers should be prevented so as not to overstress the livestock or the working dogs.

**Suggested resources**

**Websites**

Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008

www.aspca.org/media


Delta Dog Safe, 2008, Delta Society Australia, viewed 30 September 2008

**Printed texts**


Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608
RSPCA
Delta Society
Australian Veterinary Association
Local council

Approved activities: dogs

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activities
• Observation of the normal behaviour of animals (Category 1)
The internal classroom may be unsuitable to observe dogs because of floor surfaces, hanging objects and unfamiliar smells that may cause stress for the animal. Outdoor areas are likely to be more suitable for observation.

When dogs visit the classroom, they should be present only for the duration of the class time. A source of fresh drinking water should be provided and dogs need to be protected from stress such as loud noise and crowds. If a dog becomes distressed for any reason, it should be removed immediately from this environment.

When a service animal such as a seeing-eye dog visits a school, the handler or owner is responsible for its welfare. The supervising teacher is responsible for providing appropriate facilities if they are required and assisting students to understand the animal and its needs.

The service animal is not to be used for any purpose other than observation of its behaviour while it is with the owner.

When a service animal visits a school, the supervising teacher is responsible for providing an appropriate environment for observation.
Ducks and geese

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0013/13360/domesticpoultrywelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

**Physical attributes**

- **Size: Geese:** up to 90 cm
- **Ducks:** up to 60 cm
- **Weight: Geese:** Gander 4–14 kg, Goose 4–9 kg
- **Ducks:** Drakes 1–5 kg, Ducks 0.8–4 kg
- **Age at adult size:** 6–12 months
- **Weight at birth:** 50 g
- **Incubation period:**
  a. Ducks 28 days
  b. Muscovy Ducks 35 days
  c. Geese 35 days
- **Breeding ages:**
  a. Ducks: from 6 months
  b. Geese: from 12 months
- **Healthy characteristics:**
  - Body temperature: 40–42ºC
  - Heart rate: 180–340 beats per minute.

**Environment**

Movement and exercise: Ducks and geese appreciate a ranging situation and can be successfully housed at night in more intensive situations. Intensive (caged) raising of any form of poultry is not permitted in ACT schools.

Shelters should provide 1m²/bird floor space for geese.

**Temperature**
Preferred range is 20–28°C. Temperatures below 10°C and above 32°C cause stress.

**Light**
Shedded birds must have reasonable light and not be kept in dark.

**Ventilation**
Draughts and chilling winds should be avoided. Ventilation is required to prevent ammonia build up in intensive situations.

**Shelter**
Sufficient shelter is required to protect from extremes of climate such as temperature, wind, rain and direct sunlight. Steps should be taken to ensure that, as far as practicable, birds can be attended to promptly in the event of fire, flood, injury or disease.

**Bedding**
Clean, dry litter of rice hulls, shavings from non-treated timber, straw or sand.

**Cleaning**
Little cleaning is required if the litter is deep and kept dry.

**Nesting**
Ducks generally require little assistance in setting up their nests. The following information may be of interest. Suitable nesting material such as clean dry sand, rice hulls, straw or wood shavings can be provided. Nesting boxes or, if available, plastic drums of approximately 25 litres in size with the base cut out leaving a small lip to hold back nesting materials, can be provided. One nesting box or drum can service between three or four birds. The nest should be reasonably dark and have sufficient size to isolate one bird from another to avoid egg damage and aggressive behaviour from some birds during nesting time.

**Water**
A pond of water, deep enough to enable the ducks to dabble regularly, is an advantage. If there is no access to a pond, a water container which is large enough to enable ducks to immerse their heads and dabble is required.

**Food and water requirements**

**Type**
Use commercial duck rations. If unavailable, domestic chicken feeds will suit. Geese are excellent grazers of grass but require food supplementation for growth and reproduction. Geese must not be force fed for any reason.

**Quantity**
For geese: 250–300 grams per day when on commercial rations only. The amount is less if geese graze on grass. Ducks require 120–150 grams of mash or pellets per day.
Regularity
Ad lib preferred but a minimum of twice per day, morning and evening. Do not force feed. Essential dietary needs (variations): Like domestic chickens, goslings and ducklings require high protein foods. Geese appreciate a grassed, grazing area.

Water
At all times, water must be cool, clean and fresh and of acceptable quality and sufficient quantity. The water must be deep enough to allow the birds to submerge their heads in for grooming purposes.

Normal behaviour
The normal behaviour of a duck or goose is to be alert with a level carriage. They often waddle around and peck as they investigate the surroundings. Ducks and geese will emit characteristic quacking or honking noises when their territories are entered.

Signs of illness
Ducks and geese may show signs of the following:
• inactivity, head under wing, feathers ruffled or isolated from group
• frequent shutting of eyes
• little response when touched or pushed or often pecked at by other birds
• reduced feeding and/or water intake
• lameness
• reduced growth or egg production
• diarrhoea.
A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill-health, assistance from a veterinarian, familiar with ducks or geese, should be sought. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

Disease prevention
Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records.

Handling
Ducks and geese need to be handled calmly and with care to prevent distress and injury to the animals. For specific handling techniques, see the Approved Activities.

Where an animal has become so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, euthanasia must be arranged with a competent person.

In emergency cases, the bird’s neck can be dislocated by a person competent in the technique.
References

Web sites

NSW Department of Primary Industries, 2005, State of NSW, viewed 30 September 2008

Printed texts
NSW Dept of Agriculture and Fisheries, Agfacts: Diseases of Ducks, Australia.
NSW Dept of Agriculture and Fisheries, Agfacts: Geese Raising, Australia.

Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608

Local Council
Local farm supplies trader

Approved activities – ducks and geese

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

A. Very low impact activity

- Observation of normal behaviour of birds (Category 1)
Be patient as birds do not like loud noises or sudden movements. Students can observe one bird for individual behaviour and two birds, a male and a female, for breeding behaviour.
B. Low impact activity

- Capture, restraint and handling (Category 2)

Birds should be captured and handled only when necessary. Use birds that have become accustomed to handling from a young age. Avoid chasing birds as this agitates them and causes them to pile up in corners.

**Ducks**: Care must be taken in catching ducks to avoid creating panic and subsequent injury or smothering of the birds.

The proper handling of ducks requires special skill, and it should be undertaken only by competent persons who have been appropriately trained. It should be carried out quietly and confidently, exercising care to avoid unnecessary struggling which could bruise or otherwise injure the ducks. In hot weather handling or movement of ducks should be carried out during the coolest part of the day. Day-old and young ducklings should be picked up bodily in the palm of the hand or if handling groups by the neck.

Older ducks should be lifted by the neck or wings and they should be supported either by taking the weight of the bird by a hand placed under its body, or by holding the bird with a hand on either side of its body with the wings in the closed position.

Once sufficiently developed, lifting by the wings is the best method, providing support is given under their body. Ducks must not be lifted by a single wing. Ducks must never be held or lifted by the legs.

**Geese**: Should always be caught by the neck and must never be caught by the legs. Geese should be handled by competent experienced handlers so that they are not disturbed unduly.

C. Non-invasive measurement

1. **body weight** (Category 2)

Only use birds which are accustomed to being handled. Young birds can be weighed directly on a triple beam balance or electronic balance. Older birds may need to be restrained in a light cardboard box. For growers and adults, a set of bathroom scales can be used with a trained handler holding the birds appropriately.

3. **growth** (Category 2)

Growth is usually measured by body weight changes. Growth can be shown by photographing or drawing a bird against an appropriate background grid or scale. Use a sufficient number of birds to determine individual differences. Videotaped records can also show a bird’s growth.

4. **body proportions** (Category 2)

Two handlers are required for this activity. One person needs to adequately restrain the bird while the other person measures. Do not distort a bird excessively to make measurements of body parts.
5. **pulse or blood flow** *(Category 2)*
For this activity, restrain a bird as previously described. As birds have a very high pulse rate, it is difficult to measure. A stethoscope is required.

6. **respiration** *(Category 2)*
Observe birds in warmer weather as indications of respiration are more obvious. Observe and record a bird with its beak naturally open and the tongue moving. The number of tongue movements can be recorded.

7. **temperature** *(Category 3)*
Restrain a bird by the hand and arm method. A clinical thermometer is inserted into the vent or cloaca. Slide the thermometer in carefully and wash it between birds. Warm the thermometer in cold weather.

**D. Measurement of mild dietary effects**

1. **high/normal protein** *(Category 3)*
2. **high/normal energy** *(Category 3)*
3. **high/normal fat** *(Category 3)*
   A variation in diet can be achieved by using commercially prepared foods which use a different formula than the usual one provided. Any variation in the diet should be an enhancement to, rather than deprivation of, the diet. The minimum level of protein, energy or fat selected for the trial must be the minimum acceptable for the life stage of the particular bird type. The trial period should not be longer than is necessary to achieve a clearly observable result. Ten to fourteen days is sufficient for young birds, after which the birds should be returned to their normal diet.

   Where comparative food trials are being undertaken, no less than the minimum protein levels should be fed to birds. The maximum amount of protein permitted is 20% above the minimum levels.

   Schools should not keep broilers for more than 10 weeks. After this period, the likelihood of stress fractures and broken legs becomes a distinct possibility.

4. **palatability** *(Category 3)*
For adult birds, use a variety of commercially prepared layer pellets and mash, ensuring a plentiful supply of clean fresh water. Observe two adult birds in separate pens.

**E. Behaviour activities**

3. **training poultry for showing** *(Category 3)*
   Use an adequately sized training pen, housed in a shed or very well shaded area. Provide clean, dry floor litter and ad lib feed and water. Treat birds to minimise external parasites. Cover the pen with a hessian bag to lower the light level. Ensure quiet, steady movements near, and around, training pens. Use hands to stroke and handle the bird. If it becomes agitated, cease handling.

   If a bird is to be removed from the pen, move it in and out head first.
F. Collection of samples

3. faeces (non-invasive) (Category 3)
Place the bird in wire-floored pen, elevated off the ground, so that faeces can be collected. Do not force faeces from a bird.

7. blood (Category 5)

G. Standard husbandry activities

1. administering treatments

topical
• dip (Category 3)

oral
• drench (Category 3)

injection
• subcutaneous (Category 3)

It is important to maintain a program of vaccination and control of parasites for all birds. When treating for internal and external parasites, all birds should be treated at the same time. These activities need to be documented in the appropriate records.

When using vaccines, drenches, external parasite control chemicals or any other animal care chemicals, care must be taken and noted about the following:
• reading all labels
• maintaining appropriate storage
• adhering to withholding periods
• determining the weight of animals
• determining the correct dose rate
• using protective clothing if required.

Oral medications to be administered include worming compounds and vitamin and mineral supplements. They may be administered in the feed or water depending on instructions.

If water-based treatments are to be used, water is generally withdrawn from birds overnight to increase their thirst. Avoid water withdrawal during the day, particularly in hot weather.

Drink containers need to be suitably anchored to prevent tipping.

29. beak trimming (Category 4)
This is usually not necessary in ducks and geese. Refer to the Code of Practice for the Welfare of Animals, Domestic Poultry 4th Edition for information about bill trimming for ducks and geese.

41. slaughter of livestock (Category 5)
Frogs and toads (including tadpoles)

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.


A list of protected species is available at: http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/protected_native_animals

A list of species that can be held without a license is available at: http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/exempt_animals

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Varietal range difference

There are five quite different families of frogs:

- Tree frogs (family Hylidae)
- Southern frogs: ground dwelling (family Myobatrachidae)
- Narrow mouthed frogs (family Microhylidae)
- True frogs (family Ranidae)
- True toads (family Bufonidae)

It is illegal to take frogs or tadpoles from the wild in the ACT or move them from one water body to another. Schools and other institutions can get a permit to take frogs or tadpoles...
from the wild for study purposes. When two tadpoles have metamorphosed into frogs, they should be returned, with the remaining tadpoles, to the place from where they were initially collected. If the environment conditions are not suitable for the species being kept, the tadpoles may never metamorphose into frogs.

When school holidays are due, schools holding tadpoles must make suitable provisions for daily monitoring during these periods. If daily monitoring is not available, then all the tadpoles should be returned to the place from where they were originally collected.

If, after six months, the tadpoles have still not metamorphosed into frogs, the tadpoles should be returned to the place from where they were initially collected.

Equipment

The following is required:
- plastic tub or aquarium. A plastic tub is safer for cleaning.
- smooth piece of wood angled into tub for tadpoles to move onto as they grow legs
- dip net or aquarium net
- jug for water changes
- garbage bin to keep aged water in
- household bleach
- pump and air stone.

Setting up the environment

Fill a garbage bin with tap water. The water needs to be aged for 24 hours to allow the chlorine to evaporate before adding it to the aquarium.

Place the tub on a flat solid surface, out of direct sunlight. If an air stone is used, a power point, near and above the tank’s position, is required.

Fill the tank with the previously aged water. Tadpoles are poikilothermic, that is, the temperature of the environment determines their body temperature. Ensure the tub maintains a temperature range of 18–22°C.

‘Reptile’ ultra violet fluorescent light, fitted with a timer, should be provided. Amphibians require a normal day/night cycle and exposure to ultraviolet rays. Direct sunlight filtered through glass are dangerous to amphibians.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Collecting tadpoles

Ensure that the housing is ready before collecting tadpoles.

A maximum of 20 tadpoles only can be taken from one body of water. Do not collect tadpoles from different sites as this could cause disease contamination. Tadpoles must not be collected from a National Park.
It is important that all equipment used to catch and carry tadpoles is either new or disinfected prior to use.

**How to care for tadpoles**

**Maintaining the environment**

Change 30–50% of the water daily. The easiest way to do this is to mark, on the side of the tub, a line showing 50–70% of the water remaining in the tub. To ensure that tadpoles are not inadvertently caught in the jug, place the dip net across the mouth of the jug.

Small standing bodies of water need to be changed daily. Water filters require changing as per the manufacturer’s guidelines. Cleaning the glass should be achieved without the use of any cleaning agent or disinfectant by the use of a razor blade, cloth and warm water only.

**Feeding**

Feed the tadpoles once daily. Feed only enough to be eaten within one hour. If there is food left at the end of this time, remove it and feed less the next day. Suitable food includes algae disks, fish flakes or lettuce, which has been boiled or frozen to break down the cells.

**Health**

Learn about what is normal behaviour for tadpoles and check them daily. Incorrect environmental conditions and inadequate nutrition can make tadpoles sick. To keep the tadpoles healthy, maintain good water quality and feed them appropriate foods. Bacteria and fungus can also affect tadpoles. The volume of water that tadpoles have access to can affect their growth rate. Do not overcrowd the tadpoles.

Keep a daily monitoring chart. Check off daily water changes, feeding and any comments about the behaviour of the animals.

As the tadpoles develop legs, their gills recede and they are then unable to breathe under water. At this stage, the tadpoles need areas where they can sit above the water line.

**Release of tadpoles and frogs**

When two tadpoles have metamorphosed into frogs, they should be returned, with the remaining tadpoles, to the exact place from where they were initially collected. Transport the animals in new or disinfected containers.

For more information about individual frog species please refer to the code of practice for the welfare of amphibians in captivity at: http://www.tams.act.gov.au/__data/assets/pdf_file/0006/48813/amphibiansincaptivitywelfare-codeofpractice.pdf viewed March 09

**Suggested resources**

**Web sites**

Protected Native Animals and Exempt Animals, Department of Territory and Municipal Services, 2008, ACT Government, viewed 30 September 2008


Printed texts

CDs and tapes
David Stewart Nature Sound Frog Calls of the Greater Sydney Basin, (narrated by Richard Morecroft) (Australian Museum Bookshop)
David Stewart Nature Sound Frog Calls of North Eastern NSW, (also Bird & Mammal Calls), PO Box 1261 Atherton Qld 4883.
Email: nemarotu@om.com.au
Grigg and Barker Frog Calls of South-Eastern Australia, G. Grigg, Dept Zoology University of Queensland, Queensland 4072 or Australian Museum Bookshop.
Littlejohn, M. Calls of Victorian Frogs, Victorian Frog Group, PO Box 424, Brunswick Victoria 3056.

Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608
ACT Frogwatch
Ginninderra Catchment Group
Phone: (02) 6278 3309
Fax: (02) 6278 3926
Approved activities: Frogs and toads

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Any activity that involves removing tadpoles from the water is prohibited, except where transferring for cleaning or rehousing purposes.

A. Very low impact activities

- Observation of normal behaviour of frogs (Category 1)
  This may include observing activities such as tadpoles and frogs swimming, jumping, feeding, croaking and breathing. Observation does not involve capture and students must not knock on the tank.

- Frog photography (Category 1)
  This can be conducted either in a small photography tank or in an aquarium. Provide supervision and care when transferring frogs or tadpoles to the photography tank and be aware of the heat that may be generated by photographic lights. Very good results can be obtained using a short, telephoto lens fitted to a digital camera or a camera equipped with a 200 ASA film and a good lighting system. A teacher of photography may supervise this.

B. Low impact activities

- Capture, restraint of frogs (Category 2)
  To allow some management activities to be carried out, e.g. cleaning of the tank, moving frogs or tadpoles to another tank, frogs or tadpoles may need to be caught. This should be done using a suitable net and every effort should be made to ensure that tadpoles are out of water for the shortest possible time. Well established routines should be applied to the care and feeding patterns used in the classroom to both minimize the frequency of cleaning and the moving of frogs and tadpoles.
Fishing

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

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All students and teachers involved in fishing as part of a school activity, must adhere to the advice provided in the Recreational Fishing Laws, 2006, Department of Territory and Municipal Services, ACT Government, at: http://www.tams.act.gov.au/play/parks_forests_and_reserves/recreation_inActs_parks_forests_and_bushlands/recreational_fishing_in_the_act

The categories of activities, as described in Animals in schools: Animal welfare guidelines for teachers, do not apply to fishing when it is carried out as part of a school activity and when the Recreational Fishing Laws and associated documents are adhered to.

Note: Teachers and students must adhere to all of the specific principles of this code.

When catch and release is not practiced, fish should be killed by dispatching the fish immediately with a firm tap on the head with a suitable blunt object followed by rapid severing of the spinal chord.

On animal welfare grounds this method is preferred when undertaken by less experienced persons.

The national code of practice for recreational and sport fishing (brought to you by Recfish Australia: Looking after our Fisheries) recommends:

1. **Taking no more than our immediate needs**
   
   A vital way we can participate in conserving fish stocks is to limit our catch by taking only our immediate personal needs.
Overfishing has a detrimental effect on fish stocks and in extreme cases, entire fish species.

Looking after our fisheries means:
• using commonsense and constraint when fishing, for example, return unwanted, endangered or threatened species to the water.
• carefully returning unwanted live bait to the waters they were taken from. Live bait is an important part of the food chain so it is important to leave some to support the fish we wish to catch in the future.

2. Understanding and observing all fishing regulations and reporting illegal fishing activities

State and Territory Fishery departments make regulations to manage the fisheries for now and the future. To protect fish stocks and fish habitat, report illegal fishing activities to the relevant authorities. It is important that the fishing community does not ignore activities that threaten the fisheries and damage the reputation of responsible fishers.

Looking after our fisheries means:
• keeping up to date with regulations and observing them because they are based on the best available scientific evidence
• acquainting yourself with State and Territory bag, size and possession limits
• becoming familiar with existing tackle restrictions and checking the dates of local seasonal closures
• helping to explain fishery regulations and the reasons for them to others, especially children
• reporting black marketing of fish by recreational anglers
• reporting poaching, theft and illegal netting to the relevant authorities
• not presuming to act as officers of the law.

(For current details of State or Territory bag, size and possession limits contact your State or Territory Fishing Agency).

3. Supporting and encouraging activities that restore and enhance fisheries and fish habitat

We are all dependent on healthy ecosystems. Habitat destruction and modification, resulting largely from human activities, presents a huge threat to the maintenance of fish stocks and the availability of other species such as shell fish, rock lobsters and crabs.

Restoring and enhancing fisheries and fish habitat means:
• recognising the fragility and environmental diversity of streamside vegetation, estuaries, seagrass, mangroves, and reefs. These areas provide food, shelter and important breeding and nursery areas for many fish species
• participating in research, rehabilitation and monitoring programs such as Coastcare, Waterwatch, Rivercare, Landcare and tagging programs
• educating others, especially children, in sustainable fishing practices
• becoming familiar with the life cycles and breeding seasons of aquatic species and other fauna
• becoming involved in programs that restore coastal and streamside vegetation such as Rivercare and the Community Recfishing Grants program
• keeping a safe distance from aquatic wildlife and avoiding undue noise when birds are roosting or nesting
• never using non indigenous fish as live bait or introducing exotic fish into natural waters.

Protecting the Environment by:

4. Preventing pollution and protecting wildlife by removing rubbish

Pollution affects the health of the environment and spoils our experience of the outdoors. Natural areas continue to suffer major problems due to the side effects of human activities.

We can help! Preventing pollution means:
• taking fishing line, polystyrene foam packaging, bottles, six pack holders, bait bags, cups and packaging, etc. away from fishing sites. All items must be disposed of correctly to avoid potentially entrapping birds and other creatures
• not leaving bait to foul rocks, river banks or beaches
• not washing rubbish, chemicals or other waste into stormwater systems. Most stormwater drains run directly into waterways
• participating in programs such as ‘Clean up Australia’ and ‘Oceancare Day’.

5. Using established roads and tracks

Off-road driving or ‘bush-bashing’ can be a major cause of erosion and vegetation loss; likewise trampling across dune systems, reef beds and other fragile areas.

Using established roads and tracks means:
• using walking tracks and avoiding driving on beaches. The protection of sand dunes, coastal, and streamside vegetation will help minimise beach and streamside erosion
• avoiding straying from established roads and tracks
• treating all natural areas with care.

6. Taking care when boating and anchoring to avoid damaging sensitive areas

Boating increases the range of fishing possibilities but unskilled and thoughtless use of boats can lead to environmental damage.

Taking care when boating means:
• showing care when anchoring, particularly around reef or seagrass areas
• avoiding disturbance to wildlife by excessive noise or harassment
• keeping a constant vigil when boating to avoid hitting wildlife
• refuelling on land wherever possible and not discharging wastes, oil or sewage into the water
• being aware of your boating speed to minimise erosion of riverbanks from excessive wave action
• avoiding modification of or disturbance to fish habitat while diving.
7. **Reporting environmental damage and pollution to the relevant authorities**

The protection of the environment is everyone’s responsibility. By reporting pollution problems to the relevant authorities, we help ensure that our waters become pollutant free and discourage practices that destroy fish habitat.

Reporting environmental damage means:

- reporting any fuel and oil spills
- reporting all stranded or dead aquatic animals and protected species
- reporting any signs of discharge of polluted waste waters and runoff containing fertilisers and pesticides
- reporting any vegetation or stream damage, e.g. sedimentation, declining water quality, algae, etc
- reporting sightings of suspected aquatic pest organisms such as carp, salvinia weed, or caulerpia.

8. **Avoiding interactions with threatened species and their critical habitat**

While fishing and accessing fishing grounds it is easy to inadvertently disturb the habitats of protected species or disturb the species themselves. Habitat destruction and modification are the major threat to the continued survival of threatened species.

Avoiding threatened species means:

- being aware of and avoiding disturbance to threatened species that inhabit areas you intend to fish
- observing and obeying signage or guidelines in areas where threatened species live
- obeying guidelines for activity in the vicinity of marine mammals
- reporting any inappropriate behaviour we witness which may affect threatened species
- reporting sightings of threatened species in distress
- quickly and correctly returning to the water any inadvertently caught threatened species.

Treating fish humanely by:

9. **Quickly and correctly returning unwanted or illegal catch to the water**

Incorrect handling damages fish and reduces their chances of survival after release. A fish out of water cannot live for more than three or four minutes because of brain damage caused by lack of oxygen. An exhausted fish played too long, may not recover.

Correctly returning fish means:

- retrieving fish as quickly as possible
- ensuring that fish are not left to flop and flail around
- using wet hands and a minimum of handling to ensure that released fish have a good chance of survival
- reviving tired or semi conscious fish.

Hold the fish gently and move it forward to force water through its gills. When it has revived, and is able to swim normally, set it free.
For more information go to:
Released Fish Survival, Fisheries Research and Development Corporation at:
www.info-fish.net/releasefish/default.asp

10. **Using only legal tackle, attending our gear and valuing our catch**
Good treatment and handling of fish is not just about maintaining table fish quality. It is also a mark of respect that fishers have for fish.

Treating fish humanely and avoiding waste means:
- using only tackle that is appropriate for the size and type of fish
- attending gear to ensure that fish are retrieved as soon as they are caught
- dispatching fish immediately with a firm tap on the head with a suitable blunt object followed by rapid severing of the spinal chord
- icing fish down and storing them away from sunlight, preferably in a moist bag or cooler.

Respecting the rights of others by:

11. **Practicing courtesy towards all those who use inland and coastal waters**
Lakes, creeks, rivers, and coasts are used for a variety of purposes. By recognising the rights of others to use the waters for their recreation and livelihood, recreational fishers help ensure that all are equally able to enjoy their activities.

Respecting the rights of others means:
- being courteous to those whose communities we enter when fishing. Remember this is their home.
- realising that friendly rivalry can exist between recreational fishers without the need for anyone to dominate
- preparing your boat and trailer before launching at boat ramps to avoid annoying delays.

12. **Obtaining permission from landholders and traditional owners before entering land**
Having access to land held in trust to landholders and traditional owners is a privilege, not a right.

Respecting the rights of others means:
- gaining permission before entering land and clearly indicating where you are going
- recognising the cultural and spiritual attachment indigenous people feel for their land and water
- obtaining permission before lighting fires
- avoiding interference with land, stock or crops in any way
- leaving all gates as they were found
- leaving the gun and dog at home to avoid harming or harassing livestock or wildlife.
13. Caring for our own safety and the safety of others when fishing

Playing it safe while fishing is good commonsense. Never risk a life while trying to catch a fish.

Caring about safety means:

- observing and understanding all boating regulations, including the carrying of the required safety equipment
- keeping a safe distance from shorebased anglers, jetties, swimmers and other boats
- being aware of the dangers of rock fishing and seeking local knowledge of tides and wave conditions
- gaining local knowledge of common beach dangers including rip currents, large waves, shore platforms, deep water, offshore reefs and tidal currents
- exercising caution and planning for contingencies when fishing inland waters and mountain lakes and streams. Submerged logs, sudden squalls, icy waters and extremely cold temperatures can create life threatening difficulties.

The National Code of Practice for Recreational and Sport Fishing is an initiative of Recfish Australia. Funding for this Code of Practice update and reprint is provided by the Australian Government through the Natural Heritage Trust funding. The views expressed in the Code are not necessarily those of the Australian Government and the Australian Government accepts no responsibility for the accuracy or completeness of the information or other material contained in the Code. To find out more about the Code or to find out more about sustainable fishing practices contact Recfish Australia at: www.recfish.com.au/index.html

Suggested references

Websites

www.info-fish.net/releasefish/default.asp


Fishing and Aquaculture, NSW Department of Primary Industries – Fisheries, 2005, state of NSW, viewed 30 September 2008

Recreational Fishing Laws, 2006, Department of Territory and Municipal Services, ACT Government, viewed 25 September 25 2008
Fowls (domestic)

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0013/13360/domesticpoultrywelfare-codeofpractice.pdf

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VARIETAL RANGE DIFFERENCE

A variety of breeds are available for both Layers and Broilers.

PHYSICAL ATTRIBUTES

Size: Height of Bantam hen, 15 cm
large fowl 70 cm

Weight: Bantam hen 500 g
large male fowl 6.35 kg

Weight at birth: Bantam 20 g
large fowl 35–40 g

Incubation period: Bantam 19–20 days
large fowl 21 days

Rage of breeding ages: For bantams 6 months to approximately 7 years
for large fowls, 9–12 months to approximately 7 years. For large fowls breeding may extend to death, however, they would normally not be used for this extent of time.

Healthy characteristics: Body temperature: 40–42ºC
Heart rate: 180–340 beats per minute.
Animal welfare considerations are becoming increasingly important for the keeping and farming of animals, both in Australia and internationally. Practices which may have once been deemed acceptable are now being reassessed in light of new knowledge and changing attitudes. For this reason it is recommended that any school keeping poultry regularly review the Code of Practice for the Welfare of Animals: Domestic Poultry (4th edition), ACT Department of Territory and Municipal Services (TAMS), found at: http://www.tams.act.gov.au/live/environment/local_wildlife/animalwelfare/animalwelfarestandards-codesofpractice

Non commercial flocks of birds must not exceed 20 in number. Roosters are not permitted to be kept in residential areas.

**Environment**

It is no longer appropriate to keep Layers in cages as a routine procedure. However, schools may apply to the SAEC for approval to train birds for showing. This may include, for short period of time, caging birds to help them grow accustomed to show conditions. Schools considering this option should contact the Schools Animal Welfare Officer and seek written approval. To seek this approval download Appendix 6, Application Form D, Application to use an animal in teaching that is not on the approved list or is in Category 4 or 5, complete and submit to the Schools Animal Welfare Officer.

Before contacting the SAEC, schools need to consider the educational rationale for showing of the birds and to be aware of the relevant standards for the physical care of caged birds. This information can be obtained from the Code of Practice for the Welfare of Animals: Domestic Poultry (4th edition), TAMS, and from NSW Agriculture’s web site at: www.dpi.nsw.gov.au/agriculture

**Housing**

Refer to the Code of Practice for the Welfare of Animals: Domestic Poultry (4th edition), TAMS for clear guidelines about requirements for housing, including substrates, perches, nests, outdoor range and pullet rearing.

**Space**

The space allowed for each bird will vary according to the species, breed, strain and type of bird in addition to increasing age and weight. As a guide only, the minimum of 200 cm² per bird for the first 2 weeks, 450 cm² for 2–4 weeks. Grassed runs should be a minimum of 7.5 m² per bird. Deep litter, non-mechanically ventilated, should house 1 x 28kg bird per 1 m². The more space that can be provided for each bird the better.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

**Movement and exercise**

In minimum confines, a chicken must be able to turn around without losing its normal stance, display normal behaviours such as scratching and, have room to be able to flap its wings. Food and water should be easily accessible.
**Temperature**
For Layers, the preferred range is 20–28°C. Temperatures below 10°C and above 32°C cause stress. For Broilers, day-old chicks require 33°C. The temperature should be reduced by 1°C every 2–3 days until the temperature reaches 20°C, at 28 days of age. Note: rapid increases in temperature can prove fatal, especially if combined with high levels of humidity.

**Light**
Shedded birds must have reasonable light and not be kept in the dark. Birds should have a light and dark cycle. Keeping birds in the light all the time can have an adverse effect as birds can panic and smother themselves in the event of a blackout.

**Ventilation**
Avoid draughts and chilling winds. Ventilation is also required to prevent ammonia build up. Ammonia causes distress to poultry as much as to humans. Steps must be taken to prevent ammonia building up to the level where it becomes unpleasant. This can be done by reducing the number of birds in a given area and improving ventilation.

**Shelter**
Sufficient to protect from extremes of climate, e.g. temperature, wind, rain and direct sunlight. Adult birds can adapt to a wide range of temperatures (approximately 5 - 33°C), however rapid increases in temperature can prove fatal, especially if combined with high levels of humidity.

**Bedding**
Clean, dry litter of rice hulls, shavings from non-treated timber, straw or sand.

**Cleaning**
Little required, if deep litter and kept dry.

**Nesting**
Suitable nesting material of clean dry sand, rice hulls, straw or wood shavings should be provided. Nesting boxes can be used. Nests should be positioned at a distance from the floor that is easily accessible. If available, plastic drums of approximately 15–25 litres in size, with the base cut out leaving a small lip to hold back nesting materials, should be available at the ratio of one nesting box for every three or four birds. The nest should be reasonably dark and sufficient to isolate one bird from another to avoid egg damage and aggressive behaviour from some birds during nesting time. Nest litter should be kept clean, dry, friable and moisture absorbent.

**Perches**
For Layers, it is important to ensure that there is adequate perch space to accommodate all the birds simultaneously. Headroom between levels should be at least 30 cm and not more than 1 m; a linear space of not less than 15 cm per bird; and a horizontal distance between perch and the wall of at least 20 cm. Perches should be positioned so as not to foul birds below. Perches must not have sharp edges.
Protection
Every reasonable effort must be taken to provide protection from predators. Housing should be sited to be safe from fire and floods. Adequate fire-fighting equipment, including alarms should be available to control a fire.

Food and water requirements

Type
Suitable food includes pellets, crumbles, mash, grain, green feed and grit. Poultry must receive a diet containing adequate nutrients to meet their requirements for health and vitality.

Quantity
Adult fowls require 150–200 g of pellets per day. Commercial feeders in use must have the manufacturer’s recommendations referred and not exceeded. When using mechanical system for delivery there should be enough food on hand, or ready mands for obtaining food, in the event of failure of supply. Mechanical feeding systems must be checked daily.

Regularity
Ad lib feeding, preferably a minimum of twice daily, in the morning and evening with a minimum of once daily.

Essential dietary needs (variations)
Commercially prepared food is preferred as all nutritional needs are met.

Water
A clean, adequate supply of water, placed in a cool shaded area in hot weather, is required. If automatic nipple drinkers are used, they should always be fitted with a failsafe mechanism. All feeding and watering systems must be checked for efficient operation at least once each day. Water requirements range from a few millilitres for chickens to 500 ml per day in summer for adults.

Handling
Chickens need to be handled calmly and with care to prevent distress and injury to them. For specific handling techniques see Approved Activities below.

Normal behaviour
A domestic chicken’s normal behaviour is characterised by being alert, with an erect carriage. They often scratch and peck as they investigate their surroundings. As chickens are flock animals, a minimum of two should be kept.

Disease prevention
Birds should be checked at least once in a 24 hour period and for young birds in brooders, inspections should occur twice within this period. Under high temperatures, or during outbreaks of disease, further inspections may be required.
Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records.

**Signs of illness**

- diarrhoea
- nasal discharge
- sneezing
- nervous signs or paralysis
- not active, head under wing, feathers ruffled, isolated from group
- pale or purple comb
- frequent shutting of eyes
- little response when touched or pushed, or often pecked at by another fowl.

A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with chickens. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

**Euthanasia**

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a competent person. In emergency cases, euthanasia can be achieved by neck dislocation.

**Disposal**

Chickens can be sold privately, at auction or consigned to a registered processor. Carcases must be disposed of in accordance with local council regulations.

**Suggested resources**

**Web sites**

Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2006, ANZCCART, viewed 30 September 2008.
www.adelaide.edu.au/ANZCCART


NSW Department of Primary Industries, 2005, State of NSW, viewed 30 September 2008
Printed texts

Department of Primary Industries and Fisheries, Tasmania (1994) Keeping Poultry, Australia.


NSW Agriculture Agfacts: Poultry.


Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608

Local Council

Local farm supplies trader

Approved activities: fowls

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

A. Very low impact activity

• Observation of normal behaviour of birds (Category 1)
Be patient as birds do not like loud noises or sudden movements. Students can observe one bird for individual behaviour.

B. Low impact activity

• Capture, restraint and handling (Category 2)
Birds should be captured and handled only when necessary. Use birds that have become accustomed to handling from a young age. Avoid chasing birds as this agitates them and causes them to pile up in corners. If a catching hook is used, a
bird should be drawn towards the handler firmly but not so quickly as to damage shank, leg or joints. Firmly and quietly transfer the bird to the holding position.

The holding position involves restraining one hock joint between the index finger and thumb, and the other hock joint between the third and fourth fingers. The bird’s breast, or keel bone, sits comfortably on the palm of hand with the bird’s head pointing towards the handler’s body and the vent away.

When walking with a bird, its head can be tucked under the carrier’s upper arm. The non-holding arm can be used to assist with restraining the bird and prevent the wings from flapping.

C. Non-invasive measurement of

1. **body weight** (*Category 2*)
   Only use birds which are accustomed to being handled.

   Young birds can be weighed directly on a triple beam balance or electronic balance. Older birds may need to be restrained in a light cardboard box.

   For growers and adults, a spring balance with a suitable scale is required for weighing. A small, looped piece of rope can be attached to the shank of both legs of the bird and connected to the balance. Ensure that the bird’s head is kept down to avoid flapping. The reading should be taken as quickly as possible so that the bird can be returned to a normal position.

2. **growth** (*Category 2*)
   Growth is usually measured by body weight changes. Growth can be shown by photographing or drawing a bird against an appropriate background grid or scale.

   Use a sufficient number of birds to determine individual differences. Videotaped records can also show a bird’s growth.

3. **body proportions** (*Category 2*)
   Two handlers are required for this activity. One person needs to adequately restrain the bird while the other person measures. Do not distort a bird excessively to make measurements of body parts.

4. **pulse or blood flow** (*Category 2*)
   For this activity, restrain a bird as previously described. As birds have a very high pulse rate, it is difficult to measure. A stethoscope is required.

5. **respiration** (*Category 2*)
   Observe birds in warmer weather as indications of respiration are more obvious. Observe and record a bird with its beak naturally open and the tongue moving. The number of tongue movements can be recorded.

6. **temperature** (*Category 3*)
   Restrain a bird by the hand and arm method. A clinical thermometer is inserted into the vent or cloaca. Slide the thermometer in carefully and wash it between birds. Warm the thermometer in cold weather.
D. Measurement of mild dietary effects

1. high/normal protein (Category 3)
2. high/normal energy (Category 3)
3. high/normal fat (Category 3)

A variation in diet can be achieved by using commercially prepared foods which use a different formula than the usual one provided. Any variation in the diet should be an enhancement to, rather than deprivation of, the diet. The minimum level of protein, energy or fat selected for the trial must be the minimum acceptable for the life stage of the particular bird type. The trial period should not be longer than is necessary to achieve a clearly observable result. Ten to fourteen days is sufficient for young birds, after which the birds should be returned to their normal diet.

Where comparative food trials are being undertaken, no less than the minimum protein levels should be fed to birds. The maximum amount of protein permitted is 20% above the minimum levels.

Schools should not keep broilers for more than 10 weeks. After this period, the likelihood of stress fractures and broken legs becomes a distinct possibility.

4. palatability (Category 3)

For adult birds, use a variety of commercially prepared layer pellets and mash, ensuring a plentiful supply of clean fresh water. Observe two adult birds in separate pens.

E. Behaviour activities

3. training poultry for showing (Category 4)

Use an adequately sized training pen, housed in a shed or very well shaded area. Provide clean, dry floor litter and ad lib feed and water. Treat birds to minimise external parasites.

Cover the pen with a hessian bag to lower the light level. Ensure quiet, steady movements near, and around, training pens. Use hands to stroke and handle the bird. If it becomes agitated, cease handling.

If a bird is to be removed from the pen, move it in and out head first.

F. Collection of samples

3. faeces (non-invasive) (Category 3)

Place the bird in wire-floored pen, elevated off the ground, so that faeces can be collected. Do not force faeces from a bird.

7. blood (Category 5)
G. Standard husbandry activities

1. administering treatments

**topical**
- dip (Category 3)

**oral**
- drench (Category 3)

**injection**
- subcutaneous (Category 3)

It is important to maintain a program of vaccination and control of parasites for all birds. When treating for internal and external parasites, all birds should be treated at the same time. These activities need to be documented in the appropriate records.

When using vaccines, drenches, external parasite control chemicals or any other animal care chemicals, care must be taken and noted about the following:
- reading all labels
- maintaining appropriate storage
- adhering to withholding periods
- determining the weight of animals
- determining the correct dose rate
- using protective clothing if required.

Oral medications to be administered include worming compounds and vitamin and mineral supplements. They may be administered in the feed or water depending on instructions.

If water-based treatments are to be used, water is generally withdrawn from birds overnight to increase their thirst. Avoid water withdrawal during the day, particularly in hot weather.

Drink containers need to be suitably anchored to prevent tipping.

29. **beak trimming** (Category 4)

Beak trimming is done when the top beak tip becomes excessively long. The top beak is cut back to the point where the beak changes colour, ensuring the lower beak tucks under the top beak. Only people with suitable expertise should carry out this activity.

41. **slaughter of livestock** (Category 5)

**Transportation**

For transportation of poultry refer to the:
www.publish.csiro.au/books/download.cfm?ID=5391
Goats

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0003/48819/goatwelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report form and forwarded to workplace relations and Government Legal and Liaison section.
Varietal range difference

Breeds commonly used in Australia can be divided into the following categories:
- Fibre production including Angoras and Cashmeres
- Milk production including Anglo-Nubian, British Alpine, Toggenburg and Saanen
- Meat production including Condobolin and Boer-feral and Boer-Cashmere crosses. Boer goats, imported from South Africa are becoming increasingly popular for cross-breeding in Australia.

Physical attributes

<table>
<thead>
<tr>
<th>Size: at the withers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy goats: does: 79–93 cm, bucks: 90–95 cm</td>
</tr>
<tr>
<td>Angoras: does: 50–55 cm, bucks: 60–65 cm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy goats: does: 55–64 kg, bucks: 60–75 kg,</td>
</tr>
<tr>
<td>Angoras: about 45 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age at adult size:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5–2 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight at birth:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5–4 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gestation period:</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 days</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of offspring:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–3. Twins are common, triplets rare.</td>
</tr>
<tr>
<td>150–180% kidding rates are common.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range of breeding ages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual maturity is related closely to growth rate and size.</td>
</tr>
<tr>
<td>Average age for buck is 6–7 months but 4 months is possible.</td>
</tr>
<tr>
<td>Does usually 7–8 months but 5 months is possible.</td>
</tr>
<tr>
<td>Bucks need to be run at higher ratios if less than 12 months old. 1.5% bucks if mature, 3% bucks if young.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weaning age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–5 months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Healthy characteristics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature: 39.5–40.5°C. Heart rate: 60–100/min</td>
</tr>
</tbody>
</table>

Environment

Space

Goats perform well in an open pasture that has plenty of available water and shelter from wind, rain and sun. As they are agile animals, goats should have enough space to be able to run. Kids are very playful and can be discouraged from climbing into feed bins by providing them with something else to climb on. In the event of confinement due to illness, goats require sufficient room to be able to lie down, stretch, stand up and to exercise. Tethering is not recommended unless there is constant supervision of the goats.

If goats are housed intensively, each pen should be designed to hold no more than three to four goats and should provide an area of at least 1.5 square metres per goat.

Fencing

Fences should be 1.2 m high. Ensure they are secure as some breeds of goat are prone to going under or through fences. Avoid fencing in which goats can catch
their legs. Goats are particularly prone to escape attempts during periods of stress, e.g. when they are separated from the rest of the flock and at weaning time. Kidding paddocks must provide adequate protection from predators.

**Temperature**

Goats do not like cold, wet conditions. They are more easily cold-stressed than sheep or cattle as goats have less fat under the skin. Newborn kids and Angoras, after shearing, are particularly susceptible to cold and wet.

**Shelter**

Goats are sensitive to extremes of weather and shelter is essential to provide shade and protection from cold, wet weather or heat stress. Whilst goats will seek shelter from rain, they may kid in the open on frosty nights. When kidding is imminent, goats must be confined to shelter overnight.

Steps should be taken to ensure that, as far as practicable, goats can be attended to promptly in the event of fire, flood, injury or disease.

**Ventilation**

In sheds, air circulation needs to be adequate to prevent humidity and damp, and to prevent a build-up of ammonia.

**Cleaning**

Pens should be cleaned daily. If goats are to be housed for lengthy periods, wooden slatted floors, with excellent sub-floor and room ventilation, are best. This allows easy cleaning of pens. Feed bins should be off the ground and automatic waterers, which supply clean, fresh water at all times, must be installed and checked daily.

**Bedding**

Clean, dry straw or wood shavings should be provided. As these types of bedding need to be kept clean and dry, it is essential to inspect and replace regularly.

**Food and water requirements**

Goats are considered browsing animals and given the choice, will obtain 40% of their food from browsing. Goats prefer longer pastures than sheep and will not graze as closely.

Pasture species required are generally the same as for sheep, but goats will avoid many clovers. Dairy breeds require a supplement of nutritious feed, such as crushed oats, some barley or goat mixes, if they are to produce well. Good nutrition is particularly important for young, actively growing goats and for does during the last six weeks of pregnancy and when lactating.

Remember, when feeding by hand, the rule is to introduce new food types slowly and carefully. Feed plenty of high quality roughage and feed small amounts at frequent intervals.

Do not feed excessive grains. Fresh, clean water should be readily accessible. Monitoring of live weight and condition scoring will indicate the adequacy of the feed conditions.
Type
Young kids: suckle on doe or use milk replacer. Older goats: grazing and browsing is the most economical. Supplementary feeding with hay and concentrate mixes may be necessary. A local veterinarian should be consulted to determine if there is a need for specific supplementation.

Quantity
Varies with weight, stage of growth and stage of production. If no browse is available, the carrying capacity on pasture for goats is similar to sheep. As twins and triplets are not uncommon, it is important to ensure that does, during the last third of pregnancy, are on a rising plane of nutrition.

Regularity
Hay and pasture should be freely available. For dairy animals, concentrates should be fed at each milking and once per day for others. Kids can have free access to the does. If kids are hand reared, feed at the following frequencies:
- 3–4 days old, five times per day
- 3 days–3 weeks old, three to five times per day
- 3–6 weeks old, twice a day.

Essential dietary needs (variations)
Newborn kids must get colostrum in the first 24 hours. If goat colostrum is not available, sheep or cow colostrum may be used. As adverse reactions to cow colostrum have occurred, care is needed.

When hand-rearing kids, bottles should be sterilised with a commercial substance such as Milton. Milk replacer, a commercially available milk replacer for goats, should be introduced slowly. Feed 50% milk mixed with 50% Vytrate, an electrolyte solution. This ensures that the animal does not scour. Slowly increase the quantity of milk in the mix until you are feeding 100% milk after three to four days. If the kid begins to scour, place it on 100% Vytrate and start the procedure again. Mineral supplements, in particular salt, may be necessary. Advice should be sought from the local veterinarian.

Water
Goats require 4–5 litres/day, and up to 10 litres per day for lactating does. These quantities may double in temperatures above 40°C. Water must be clean as goats may refuse to drink contaminated water. The float mechanism in troughs needs to be protected to ensure goats do not damage it.

Handling
Goats need to be handled calmly and with care to prevent distress and injury to the animals and the handlers. Goats should be picked up by the body, never by the horns or fleece.

Kids can be caught by putting hands around their bodies. Catching by the legs can cause dislocation of joints.

A simple, small version of a cattle-type bail can be used for all purposes including hoof trimming, washing and milking. A simple collar can be used for milking. Most
sheep equipment can be used for goats. Shearing cashmeres involves using a simple collar restraint, whilst Angoras are held in the same way as sheep. All handling facilities should be constructed and maintained and of such a size as to minimize the risk of injury, disease and overcrowding.

For marking, the kid is held so that its body faces the handler’s body, with its head up and its back legs held. A lamb cradle can also be used for kids. Goats kept in schools learn routines quickly and respond to food incentives.

For specific handling techniques, refer to Approved Activities: goats, in these notes.

**Normal behaviour**

Goats are agile, alert and observant. They will seek shelter from rain and avoid water-logged areas as it is very difficult for them to move through puddles of water. Generally, goats have a leader and are not usually aggressive unless provoked. Kids play together.

**Disease prevention**

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records.

**Movement of goats**

There are a number of restrictions regarding the movement of goats. To ensure that the appropriate legislation is followed, contact The Animal Welfare Authority ACT and the Rural Lands Protection Board or NSW Agriculture.

**Signs of illness**

Goats may show signs of:
- disorientation
- lethargy
- changed feeding habits
- scouring
- nervousness
- discharging
- separating from, or lagging behind, the main body of the flock
- lameness
- ill-thrift or wasting
- an abnormal gait or a reluctance to rise.

A failure to thrive or grow is another sign of illness. Common ailments that may occur include mastitis, bloat, internal parasites or milk fever.

If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with goats.
Any signs of illness or injury, and treatment given, must be documented in the appropriate records.

**Euthanasia**

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

**Disposal**

Goats can be sold privately, at auction or consigned to an abattoir. Carcasses must be disposed of in accordance with local council regulations.

**Suggested resources**

**Websites**


Department of Territory and Municipal Services, 2008, ACT Government, viewed 29 September 2008

Breeds of livestock, 2008, Oklahoma State University Board of Regents, viewed 1 October 2008
www.ansi.okstate.edu/breeds/


**Printed texts**


**Contacts**

The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608
Approved activities: goats

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

B.  Low impact activities

•   Capture, restraint and handling (Category 2)
Sheep yards can be used for goats although goats jump over fences more often than sheep. Avoid rushing the animals and take care when yarding goats with horns as they can injure themselves, and others, if the horns get stuck in the fences. Avoid acute corners and do not yard more than 12–15 goats at the same time.

Goats should be restrained on their feet and not thrown like sheep. Goats may be restrained by a head stall or in a bale that will allow hoof trimming, washing, milking or ageing by dentition. Angoras can be held by the base of their horns for short periods.

Kids can be caught by putting hands around their bodies. Catching by the legs can cause dislocation of joints.

C.  Non-invasive measurement of

1.   body weight (Category 2)
The easiest and most appropriate method to determine body weight is to use a set of portable sheep scales that can be fitted into a race, allowing the animal to be restrained and weighed without undue stress or handling. Bathroom scales can be used for kids. The kids are carried onto the scales then the holder’s weight is subtracted.

2.   body condition by visual assessment or condition scoring (Category 2)
The body condition can be assessed when goats are standing in a race, bale or head stall.
3. **growth** *(Category 2)*
Measurements can be taken using a tape measure or by standing the kid against a ruler or background grid.

4. **body proportions** *(Category 2)*
The change in body proportions as animals grow is best recorded through photographs. This means little handling of stock and gives permanent and accurate records of developmental changes. It is useful to stand goats against a background grid.

5. **pulse or blood flow** *(Category 2)*
The pulse can be recorded by feeling the carotid artery at the base of the jaw or the femoral artery inside a hind leg.

6. **respiration** *(Category 2)*

8. **age by dentition** *(Category 2)*
Like sheep, goats are aged according to their dentition. To check the number of teeth in its mouth, the goat can be restrained by putting it in a race, head stall or bail.

9. **scrotum and testicles (palpation)** *(Category 2)*
The goat is held in a standing position. The handler places a hand on each side of the base of the scrotum and feels for the spermatic chords between thumb and fingers, gradually moving down to the epididymis. Abnormalities such as hardness and swelling can be felt without too much pressure.

Comparisons between the testes can be made simultaneously by using a hand on each side.

D. **Measurement of mild dietary effects**

1. **high/normal protein** *(Category 3)*

2. **high/normal energy** *(Category 3)*

3. **high/normal fat** *(Category 3)*

4. **palatability** *(Category 3)*
It is recommended that dietary observation be restricted to physiological effects on fibre growth as these provide accurate results without causing stress to the animal. Restriction of food quantity is not acceptable.

Ensure poisonous plants, especially rhododendrons, azaleas, oleanders, tomatoes and yew, are not offered to goats. Lilac and privet will not affect goats but may affect the humans who drink their milk.

E. **Behaviour activities**

2. **taming/gentling** *(Category 3)*
Goats enjoy human company. Taming is best done when kids are in the first few days of life. Avoid excessive stress to the mother, as some does are exceptionally protective. Taming in these cases may be easiest if the kid is hand fed. Avoid
stressing the kids by ensuring that students do not spend too much time with them or interrupt their meal times.

3. **training for competition or showing** *(Category 3)*  
   Kids are quietened at an early age and should be handled as much as possible. Dairy goats can be trained to walk using a collar and lead. Accustom them to being handled all over and parading around a ring.

**F. Collection of samples from livestock**

1. **fibre** *(Category 2)*  
   Samples should be cut, not pulled, from all species except cashmere, where samples can be brushed out if desired

2. **milk** *(Category 2)*  
   The doe should be safely restrained with a collar or bail. One of the back legs may need to be tied using a leg rope. Before each milking, ensure adequate hygiene by washing the udder in clean water or sanitizer solution and wiping udder and teat dry with paper towel. At milking time, the milker should wash hands between goats. After collecting a sample of milk, each teat that has been milked should be dipped in a sanitiser solution registered for teat disinfection.

3. **faeces and urine (non-invasive)** *(Category 2)*  
   When collecting urine, the most efficient method is to restrain the animal over a collection tray that will collect all passed urine. Remember to treat all urine as though it contains hazardous diseases. Store the urine in sealed containers, handle with surgical gloves and ensure that all collection areas are kept clean.

   Faeces can be collected from the ground after the animal has defaecated. Goats can be temporarily restrained in a pen or corner of the paddock. Students should wear gloves and follow proper hygiene procedures.

5. **saliva** *(Category 3)*  
   Saliva can be easily collected by feeding roughage to goats just before collection. Roughage stimulates excess saliva production so collection from the mouth, using a syringe-operated suction tube, becomes an easy process.

4. **faeces (invasive)** *(Category 5)*

6. **ruminal fluid** *(Category 5)*

7. **blood** *(Category 5)*

**G. Standard husbandry activities**

1. **administering treatments**

   **topical**
   - backline *(Category 3)*
   - spray *(Category 3)*
   - dip *(Category 3)*
oral
• drench (Category 3)

injection
• subcutaneous (Category 3)
• intramuscular (Category 3)

It is important to maintain a program of vaccination and control of all internal and external parasites for all goats.

When treating for internal and external parasites, all animals should be treated at the same time and pastures should be rotated in conjunction with the drench program. Treatment for external parasites is now commonly carried out using pour-on or backline chemicals. These chemicals are safer for the operator and for those watching the procedure. They are suitable for use in schools providing the chemicals are approved in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs.

Do NOT use the sheep treatment, Clout; however, the product, Clout-S, is suitable for use in goats. Treatment programs should be documented in the appropriate records.

When using vaccines, drenches or any other animal care chemicals, care must be taken and noted about the following:
• reading all labels
• maintaining appropriate storage
• adhering to withholding periods
• determining the weight of animals
• determining the correct dose rate
• using protective clothing if required.

Goats need to be vaccinated with 6 in 1 vaccine. Kids should be done at marking and followed-up four to six weeks later. Older animals can be restrained in a bail.

To avoid abscesses and carcass damage, vaccination should be done in the web of skin at the base of the ear, using 18 gauge, 12 mm needles that are sharp and sterile.

4. ear tagging (Category 3)
Ensure that the goats are safely restrained. The procedure should be carried out quickly. Tags are placed in the left ear of females and the right ear of males. Avoid puncturing large blood vessels. Equipment should be cleaned between goats to help prevent blood borne infections.

5. tattoo application (Category 3)
This procedure is necessary for registered stud goats. Clean the inner surface of an ear with methylated spirits. Apply the tattoo ink to a clean, hairless area, away from ridges of cartilage or large veins. Apply tattoo pliers firmly. Rub excess ink into tattoo marks. The pliers should be sterilized between goats to prevent the spread of blood-borne infections.
6. hoof paring (Category 3)
For goats, this procedure needs to be done often. Restrain the goat in a bail. To avoid cutting sensitive tissue, students should receive prior instruction on hoof structure. To avoid taking off too much hoof and causing bleeding or damage, the horn of the hoof should be cut back in several stages. Ensure the foot stands level and cut the sides first, then the point of the toe and the head.

Very overgrown hooves should be cut back gradually by trimming at weekly intervals. No bleeding should occur.

8. shearing (Category 3)
Shearing should be carried out twice a year when the wool is no longer than 150 mm. Shears should be set to half sheep shearing speed. Lubricate the combs more often to keep them cool. Treat cuts by applying a commercially available antiseptic.

12. milking (Category 3)
Does should be safely restrained with a collar or bail. A back leg may need to be tied using a leg rope. Before each milking, ensure adequate hygiene by washing the udder in clean water or sanitizer solution and wiping udder and teat dry with paper towel. At milking time, the milker should wash hands between goats. After collecting a sample of milk, each teat that has been milked should be dipped in a sanitizer solution registered for teat disinfection. Does may be fed while milking. Lactating dairy goats in full lactation should not be left for more than 24 hours without relief by milking.

Check the udder regularly for mastitis. Severe mastitis can be checked by using a Rapid Mastitis Test which involves mixing a detergent solution with milk. Milk from infected udders will form a jelly-like consistency. Refer to Agskills from NSW Agriculture for procedures to recognise and treat mastitis.

Special goat cups are available for milking machines although Jersey cow cups may be more suitable for goats with larger teats. Do not over milk. Monitor the flow of milk and cease milking when the steady flow begins to dwindle. Lactation should only be encouraged for 5–9 months. Vacuum source should be at 35–45 kg and have a pulsation rate of 70–90 ppm.

25. castration (Category 4)
Castration can be done by placing an elastrator ring at the neck of the scrotum, by removal using a knife, or by using a specially-designed, heated knife that seals the wound.

31. artificial insemination (Category 5)

39. disbudding (Category 4)
This procedure is best carried out on kids during their first week by using a hot disbudding iron, which is usually gas-powered. Experienced operators only should do the procedure, as local anaesthesia must be used to restrain the kid. Kids should be checked after 2–3 weeks as regrowth can occur if the procedure is not correctly performed. Disbudding should be performed by an experienced operator, preferably a veterinarian.

Care should be taken when disbudding young bucks as damage can be done to the scent glands which are located near the horn buds.
Guinea pigs

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for welfare of guinea pigs.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools.

Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Variatel range difference

The most common varieties are:

• English or short-haired, whose coarse hair, from 3 to 4 cm long, lies very close to the body
• Peruvian or silky long-haired, with hair over 12 cm long
• Abyssinian which is characterised by rough, curly rosettes of hair over the body.

Coat colour can vary over a wide range of black/brown/white arrangements, and some mutant strains can also have tortoiseshell and yellow colourings.

Physical attributes

Size: mature animals have a stout build and are about 15 cm long

Adult weight:

male: 900–1500 grams
female: 700–900 grams

Age at adult size:

male: 10 weeks
female: 6–8 weeks

Average life span: 4–5 years

Weight at birth: 60–100 grams

Gestation period: 59–72 days, an average of 63–68 days

Number of offspring: 1–10
Litter frequency: 3–5 per year

Range of breeding ages: 4 weeks to 20 months. Sows should not be allowed to get too old before breeding for the first time as dystocia may occur.

Description at birth: completely covered with fur, eyes open, full set of teeth, young are up and running within one hour.

Desirable weaning age: 14–21 days (180 gm). Females can mate from 28 days of age and weaning should precede this.

Feet: forefeet have four broad toes. Hind feet have three toes.

Tail: nil but there is a tail bone which is barely visible.

Healthy characteristics: body temperature: 37–38ºC heart rate: 180–340 beats per minute respiration rate: 85–90 per minute.

Environment

Guinea pigs may be housed indoors or outdoors, in less intensive conditions and with access to fresh grazing. An example of an outdoor hutch system is the amended Morant system which provides a mix of grazing area and a solid floor.

Whether keeping guinea pigs intensively or in an outdoor system, the housing area must be treated with extreme care and cleanliness. Guinea pigs will become agitated if their cages are unclean or they are moved frequently.

Guinea pigs kept indoors should be housed in a well-lit and ventilated area, away from draughts, fumes and noise, and at a temperature between 16 and 20ºC.

They should not be placed in the following positions
• near windows, especially during winter or midsummer
• in direct sunlight
• in draughts from ventilators, windows or doors
• in fumes of any kind, over or near heaters
• where access is difficult.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Space

A variety of cages are available in plastic, metal slat or wire. Guinea pigs that are not raised in wire cages may experience broken limbs if they are transferred to wire-based cages. Wide, wire mesh floors are suitable for outdoor runs. If wire cages are used, it is important to provide a section of solid flooring.

Open cages should have sides that are at least 38 cm high. They are only suitable for keeping guinea pigs indoors.

Adult animals should have approximately 1 m² floor space per animal.

Clear plastic sided cages are excellent for student observation, however, ensure privacy for guinea pigs by providing shelter.
Movement and exercise
No special facilities are required as they are relatively inactive animals except when suddenly disturbed. To avoid stampedes and circling, place obstacles inside the cage. If stampeding does occur, it indicates poor husbandry techniques.

Bedding
Bedding should be of softwood shavings, coarse sawdust or shredded paper with hay (or straw without grass seeds) being added for nesting. Sufficient bedding should be provided to enable the animal to burrow under. New litters should not be disturbed for at least one week.

Cleanliness
Cages and feed containers should be sanitized at least weekly by washing with a detergent and hot water or mild disinfectant solution followed by a thorough rinse. Guinea pig cages require frequent cleaning in order to avoid ammonia build up. To remove urine scale a weakly acidic solution may be needed.

Food and water requirements
Guinea pigs are vegetarian and must have vitamin C to maintain good health. Cereal straw is required for young sows in first pregnancy.

They require freshly milled pellets which are softer and smaller than rat pellets. The pellets must be discarded after 90 days to ensure continuous supply of vitamin C. Guinea pigs must also have green feed for a number of reasons. If ascorbic acid needs of 10 mg per kg body mass are not supplied in the feed, it can be added to the water supply.

In very early life, guinea pigs imprint for diet and refusal to eat a change of diet can result in their starving to death. Guinea pigs are very fussy eaters and may refuse to eat or drink if feed or feeders are changed.

The daily feed requirement is 6 grams per 100 grams of body mass and 80–100 ml of water. Feed and water must be changed and replenished at least every 48 hours although daily servicing is preferable. Like primates, guinea pigs lack an enzyme in the glucose to vitamin C pathway and require ascorbic acid. Natural supplies of this are found in cabbage, kale, green feed, carrots and pumpkin.

Guinea pigs' teeth grow continuously, so hard shelled nuts or other gnawing material, such as raw fruit and vegetables, must be included to prevent overgrowth.

Water
Inverted glass water bottles with a metal or pyrex glass cannula are recommended as guinea pigs will chew on and block sipper tube waterers. Feeders and waterers should be suspended away from bedding as they defecate and urinate into their feed and water if these are placed on the floor of their housing area. Spillages must be drained away to ensure dry bedding and reduce the risk of Salmonellosis.
Handling

Guinea pigs need to be handled calmly and with care to prevent distress and injury to the animal and the handler. Well-designed refuges such as tubes or pipes assist in catching. If guinea pigs hide in these, they can easily be caught without struggling.

Guinea pigs sometimes freeze when being transported and provision should be made for somewhere for them to hide. They will recover well if left undisturbed for approximately one hour. Unlike mice and rats, they usually do not chew through transport containers. Ensure good ventilation, no overcrowding, and a small amount of hay to help protect the animal in the transport box. Any handler, whether teacher or student, must maintain a high level of hygiene both before and after handling animals. Hands should be washed with warm soapy water. Any bite should receive appropriate first-aid or medical treatment.

Normal behaviour

Guinea pigs are not ideal animals for observation as they choose to spend a great deal of their lives hiding, however they do respond readily to frequent, gentle handling. They rarely bite or scratch but have a tendency to scatter feed and bedding. As they mature, they like set handling patterns and may become agitated if feed, water or containers are changed. They are extremely sensitive to being moved and as a result may freeze for 30 minutes or more.

They make little noise except when stressed, which will cause them to utter shrill squawks and hissing sounds. They may become quite vocal in anticipation of food. Females with young will make a soft clucking noise while the young chatter. To attract a male, a female on heat makes low quiet bleats. Excited guinea pigs stampede, and may trample their young.

They have a tendency to circle when stressed but this can be alleviated by identifying the cause of the stress and removing it or by using a rectangular cage or providing barriers within the cage to reduce circling.

They establish male dominated hierarchies, and subordinate animals may be chewed or barbered. Only one male per pen should be kept and mature males should not be kept together. Strange males placed together, particularly with a female or in crowded conditions, will fight.

They do not burrow in the wild but live in the dug-outs of other animals.

Disease prevention

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian.

All activities must be documented in the appropriate records.
Signs of illness

The first sign noticed is a change in the animal’s natural demeanour. It may be listless or lethargic. Closer examinations may show:

variations in:
- body temperature
- gastrointestinal functions such as diarrhoea, weight loss or loss of appetite
- urogenital functions, e.g. abortion, infertility or abnormal discharges
- respiratory functions, e.g. persistent coughing, gasping or panting;

or evidence of:
- skin condition such as lesions, abnormal growths
- a tucked up appearance, stiff gait, or abnormal posture, patchy coat or loss of hair
- excessive scratching or rubbing
- swollen joints or limping
- dribbling.

A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with guinea pigs.

Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

Disposal

A disposal plan needs to be considered before using an animal in any program.

Suggested resources

Websites
Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 1 October 2008
www.adelaide.edu.au/ANZCCART

RSPCA, 2007, RSPCA.org, viewed 1 October 2008
www.rspca.org.au

Petalia, A world of Pet Care, 2000, Petalia ™, viewed 1 October 2008
Approved activities: guinea pigs

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activities
   • Observation of animal behaviour (Category 1)
     Guinea pigs are not ideal animals for observation due to their normal behaviour of hiding. If the animals panic and begin to stampede, do not continue the observation period.

B. Low impact activities
   • Breeding of guinea pigs in the classroom (Category 2)
   • The appropriate care of classroom pets (Category 2)
     A plan for the disposal of surplus animals must be in place prior to beginning this activity. If killing is the only disposal option, then the breeding program is not allowed.

     The male and female should be separated prior to the female giving birth. Offspring should be separated into single sex groups at weaning.

     It is essential that sows are mated and give birth by the time they are 12 months old. This avoids problems caused by the natural hardening of a sow’s pelvis as she ages. Sows and their young should not be disturbed during birth or within the first week of life.

   • Capture, restraint and handling (Category 2)
     The gentle nature of guinea pigs makes them one of the easiest laboratory animals to handle. They rarely bite but they can, and will, if handled incorrectly. They should be lifted by grasping under the trunk gently but firmly with one hand, while supporting the rear quarters with the other hand. Great care should be taken when handling pregnant females.

     Only one student should handle the guinea pig at any time. Guinea pigs are extremely sensitive to over handling and should not be handled by multiple students in any one session. Guinea pigs are temperamentally different and only those which do not show distress when handled should be used. Sudden noise or movement should not be allowed near the animals.

C. Non-invasive measurement of
   1. bodyweight (Category 2)
   2. body condition (Category 2)
   3. growth (Category 2)
4. **body proportions** (*Category 2*)
Students can set up weight/age and size/age charts for a number of animals and operate them over a period of 10 weeks. Use a pre-weighed container of appropriate size and appropriate scales and measuring tapes to determine overall length, girth and size of skull.

Prior training and experience in capture, restraint and handling is required. Guinea pigs should be restrained for the shortest possible period. To maintain identification of individual animals, use colour-dye marking.

G. **Standard husbandry activities**

1. **administering treatments**

   **topical** (*Category 3*)
   - Lice and fleas can be controlled by dusting the animals with insecticide powder suitable for pets.

   **oral** (*Category 3*)
   - Signs and symptoms such as dull coat, scurvy and constipation may indicate a deficiency of ascorbic acid. Advice and treatment such as an oral supplement should be sought from a veterinarian familiar with guinea pigs.

2. **coat care and grooming** (*Category 2*)
Guinea pigs require some level of coat care depending on the type of coat. Long coated guinea pigs must be groomed regularly. Animals should be gentled and tamed from one week old to become accustomed to grooming.
Horses

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 2009 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0005/48821/horsewelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report forma and forwarded to workplace relations and Government Legal and Liaison section.
**Varietal range difference**

There is a range of breeds in use in Australia that are classified according to activity:

- Thoroughbred/Warmblood in Olympic disciplines
- Thoroughbred/Pony/Arab in hack ring
- Thoroughbred in racing
- Stockhorse types in farm work
- Arabian used extensively in endurance rides.

**Physical attributes**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>8 hands high, e.g. Shetland pony, to 18.2 hands high such as Draught breed or large Warmblood. 1 hand = 10 cm. The height of the horse is taken to the top of the withers.</td>
</tr>
<tr>
<td>Weight</td>
<td>varies from 200 kg (Shetland pony) to 700 kg (draught breeds)</td>
</tr>
<tr>
<td>Weight at birth</td>
<td>Shetland is 30 kg, Draught is 100 kg</td>
</tr>
<tr>
<td>Age at adult size</td>
<td>4 years, some variation exists between breeds</td>
</tr>
<tr>
<td>Gestation period</td>
<td>322–345 days. Average is 336 days.</td>
</tr>
<tr>
<td>Number of offspring</td>
<td>1. On rare occasions, twins are born but usually they have a low survival rate.</td>
</tr>
<tr>
<td>Range of breeding ages</td>
<td>mares: 3–20 years. Progesterone is sometimes used to help maintain pregnancy in mares over 15 years.</td>
</tr>
<tr>
<td>Weaning age</td>
<td>6–9 months</td>
</tr>
<tr>
<td>Healthy characteristics</td>
<td>temperature: 38.0–38.3ºC. At 38.4ºC you would be concerned.</td>
</tr>
<tr>
<td>Heart rate</td>
<td>30–40/min</td>
</tr>
<tr>
<td>Respiration</td>
<td>10–20/min. Varies between individuals.</td>
</tr>
</tbody>
</table>

**Environment**

**Space**

A horse kept at pasture will require at least one hectare to provide adequate feed. Supplementation may still be required in summer and winter. Horses stabled, or kept in restrictive yards for long periods, will require regular daily exercise. Recommended sizes and materials are provided in the Code of Practice, Welfare of Horses in the ACT available at: [http://www.tams.act.gov.au/live/pets/animalwelfare/animalwelfarestandards-codesofpractice](http://www.tams.act.gov.au/live/pets/animalwelfare/animalwelfarestandards-codesofpractice)

**Movement and exercise**

Pastured horses will keep themselves exercised. Horses kept confined in yards or stables will need daily exercises or access to large grazing areas.
Fencing
Small yards should have post and rail fencing using timber, steel piping or steel posts. Barbed wire, prefabricated fencing and high tensile fencing can cause severe injury to horses and should not be used. The horses should be able to see any fencing material easily.

Temperature
Horses can cope with the temperature extremes experienced in NSW if they have adequate water and some form of shelter. Older horses, or those stabled and recently turned out to pasture, may require rugging with a lined, waterproof rug in cold weather.

Light
Natural light is fine. Experienced stock people using horses for showing purposes or to influence oestrus in breeding mares sometimes employ artificial light. It is unlikely that this need would exist in the school situation.

Ventilation
Horses require a well-ventilated stable without draughts. In paddocks, they need an area to get out of the wind.

Shelter
Shelter from heat, wind and rain is required. It may be a belt of trees or the provision of a stable. A stable 3.5 x 3.5 m is suitable for most horses and 3 x 3 m is adequate for a pony.
Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Bedding
Bedding is only needed in a stable and should be deep enough to prevent leg injuries. Rice hulls, straw, wood shaving or any absorbent material is suitable providing the horse does not eat it.

Cleaning
Remove dirty bedding from stables at least once a day. To help control worms, manure should be removed from the paddock.

Food requirements
Type
As horses are unable to digest low quality feeds efficiently, they should be provided with good quality feed at all times. Factors such as individual tastes, age, size and the amount of work done by a horse will influence its feed requirements. Mature horses not in work can be maintained on pasture if it is of high quality throughout the year. Supplementing the feed of horses usually consists of roughages such as legumes, cereal chaffs and hay and concentrates in the form of grains such as oats, barley and corn, pellets and protein meals.
**Quantity**

Horses will generally eat dry matter of about 1.5 to 2.5% of their bodyweight per day. If the quantity or quality of pasture is inadequate, then supplementary feeding will be necessary.

For further information, refer to appendix 2 of the Code of Practice: Welfare of Horses in the ACT, page 42.

**Regularity**

Unlimited access would only be allowed when the horse is at pasture. If supplementary feed is supplied then feed the horse at least twice a day. Note that horses have only a small stomach so smaller amounts, fed more often, are preferable.

**Essential dietary needs (variations)**

High fibre food should always be available. Lucerne hay is a useful roughage feed for horses, supplying all nutritional requirements for a horse not in work. Horses are far more sensitive to their feed than ruminant animals.

Any changes in diet should be made gradually, over eight to ten days. This minimises the risk of colic, especially if introducing grain, changing grain type or quantities. Do not feed mouldy feed. Beware of poisonous plants, in particular those palatable to horses, e.g., crofton weed and Patterson’s curse. Low fibre grains should be avoided unless treated, e.g. barley should be boiled or steam rolled.

**Water**

A horse may consume up to 25–45 litres of water per day. Water and troughs should be clean and free from contamination. Supply water ad lib except after strenuous exercise when the water should have the chill taken off it and be given in limited quantities until the horse has cooled off. Horses that are limited in their access to water will tend to gorge themselves, possibly resulting in colic. Automatic watering systems are required and these should be checked daily to ensure they are working.

For further information, refer to appendix 2 of the Code of Practice: Welfare of Horses in the ACT page 42.

**Handling**

Horses should be approached in a quiet, kind way and handled in a firm, non-hesitant manner. Schools should choose horses with calm temperaments that require minimal restraint to perform activities. A large number of horses will require only a headstall and lead rope to carry out all activities performed in schools.

**Normal behaviour**

These points should always be noted when considering the behaviour of horses:

- horses are naturally gregarious and, as such, there is a strong herd instinct
- horses may develop abnormal behaviours such as weaving or windsucking, when kept under unnatural conditions that involve social isolation or low roughage diets. Weaving has been defined as the lateral swaying of the head over the stable door or some other barrier.
Wind-sucking and crib-biting may be performed while grasping a surface and involve contraction of the horse’s neck muscles and an audible grunt. These behaviours tend to persist even when the affected animals are managed more naturally.

- horses in the domestic state tend to find security in familiar surrounding. This can be likened to the security that they derive from members of the herd in the wild state.
- horses are essentially nervous and excitable so there is a strong instinctive flight response
- horses have individual temperaments and this should be considered when assessing behaviour.
- horses are naturally nervous and suspicious of anything new or strange, sudden movements and loud noises
- horses kept in confined areas such as stables and small yards often develop behavioural problems because of frustration and lack of stimulation
- in the wild, horses move to keep in touch with one another. When horses are not free to do this, they tend to develop abnormal behaviour such as weaving
- horses have a small stomach and are designed to eat little and often
- horses that are being fed cereals should be fed small amounts at a time and be offered high fibre forages, otherwise they tend to develop vices such as crib-biting and wind-sucking.

**Note on the selection of horses**

Horses chosen for use in schools should have a calm temperament and be easy to handle. Horses are very much individuals and the restraint used to handle one horse may not be suitable for another. All horses used in schools should be able to be adequately restrained with the use of a headstall and lead rope. Ultimately, the choice of a suitable horse for use in a school should be one that does not require the use of a twitch to restrain it for any activities in categories 2 or 3.

**Disease prevention**

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records.

**Signs of illness**

The first sign noticed is a change in the horse’s natural demeanour. It may be listless or lethargic. Closer examinations may show:

**variations in:**

- body temperature
- gastrointestinal functions such as diarrhoea, weight loss or loss of appetite
- urogenital functions, e.g. abortion, infertility or abnormal discharges
- respiratory functions such as persistent coughing, gasping or panting; or
evidence of:

• skin condition such as lesions or abnormal growths
• a tucked up appearance, stiff gait, abnormal posture, patchy coat or loss of hair
• excessive scratching or rubbing
• swollen joints or limping.

A failure to thrive or grow is another sign of illness. Common ailments that may occur include colic or internal parasites.

If the cause of ill-health cannot be identified and corrected, assistance should be sought from a veterinarian who is familiar with horses. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

Disposal

Horses can be sold privately, at auction or consigned to an abattoir. Carcasses must be disposed of in accordance with local council regulations.

Suggested resources

Websites


Breeds of livestock, 2008, Oklahoma State University Board of Regents, viewed 1 October 2008
www.ansi.okstate.edu/breeds/


RSPCA, 2007, RSPCA.org, viewed 1 October 2008
www.rspca.org.au

Printed texts

NSW Agriculture, Agfacts, Information sheets.

NSW Agriculture, Agskills, Home Study Program developed at C. B. Alexander College, Tocal.


Contacts

The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608

NSW Agriculture
Local Council
Local farm supplies trader

Approved activities: horses

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

A. Very low impact activities
   • Observations (Category 1)
     It is important to realise that horses are large animals and care must be taken when making observations at feeding time. When being fed, horses may show aggressive behaviour if they are establishing an hierarchical order.

     A safe paddock or stable set up is suitable for observations.

     A horse may be obtained from a reputable dealer or stud. It is preferable to lease a horse for a school term and return it before the holidays, or undertake excursions to registered riding schools.

B. Low impact activities
   • Capture, restraint and handling (Category 2)
     Only horses with sound, calm temperaments should be used for students to handle and restrain. A firm, quiet approach to horse handling should be emphasised. Most horses should not need the use of a twitch for restraint except for some veterinary procedures.

     Most horses will allow themselves to be caught and, once trained, will lead by a headstall. For horses difficult to catch, a feed enticement is a useful aid. A smaller, solidly built catch yard can be used adjacent to the main paddock. Generally,
trying to corner horses will only lead to the flight response that could be potentially dangerous to both horse and handler. Although horses have a wide field of vision, they have a blind spot to the rear that needs to be considered. Always approach a horse at an angle so that it can see you and speak so that it is not startled.

Restraint will depend on the activity being carried out. Quick release knots should always be used when tying up horses. Most horses will tie up by a headstall if trained to do so. A solid structure should always be used as the hitch. A piece of baling twine, used between hitch and lead rope, will minimise injury to the horse and gear breakages if the horse pulls back. Use of cross ties will minimise the ability of the horse to pivot around a central point when being handled. A cross tie involves tying the horse from both sides of its headstall.

Lifting up one leg of the horse will enable another person to more easily handle one of the other legs for clipping or application of surgical dressings. A crush with solid sides is preferable so that the horse cannot get its legs caught.

After training, horses can be easily led by the head. Untrained horses should not be used in schools. Never get into a tug of war with the horse, as 500 kg will always win!

C. Non-invasive measurement

1. body weight (Category 2)
2. body condition (Category 2)
3. growth (Category 2)
4. body proportions (Category 2)
5. pulse (Category 2)
6. respiration (Category 2)

All these procedures should be able to be carried out with the horse held or tied up with a headstall and lead rope. The use of a crush or nose twitch should not be necessary. Choose a horse that is accustomed to these procedures and has a quiet disposition. Measurement can be made before and after exercise.

D. Measurement of mild dietary effects (Category 3)

This would be an unlikely activity due to the vast variations between individuals and the difficulty in measuring change in performance. The use of research data on feeding horses, mostly American, is recommended.

E. Behaviour activities

1. training for competition or showing (Category 3)

To minimise risks for the handler, horses used in schools should have calm temperaments. They should be able to be handled with headstall and lead rope, and be ridden in a snaffle bit. Horses requiring more restraint are not suitable for use in schools. Students need to be very familiar with the use of: headstall and lead rope, saddle, lunge rein, bridle and lunge whip or dressage whip. They need to be supervised and well trained in the use of this equipment.
F. Collection of samples from livestock

1. faeces & urine (non-invasive) (*Category 2*)
   Collection of faeces and urine will require minimal restraint of a horse.

7. blood (*Category 5*)
   Must be performed by an experienced handler only e.g. a veterinarian

G. Standard husbandry activities

1. administering treatments

   **topical**
   - backline (*Category 3*)
   - spray (*Category 3*)
   - dip (*Category 3*)

   **oral**
   - drench (*Category 3*)

   **injection**
   - subcutaneous (*Category 3*)
   - intramuscular (*Category 3*)

   It is important to maintain a program of vaccination and control of all internal parasites for all horses.

   When treating for internal parasites, all animals should be treated at the same time and pastures should be rotated in conjunction with the drench program. These programs need to be documented in the appropriate records.

   When using vaccines, drenches or any other animal care chemicals, care must be taken and noted about the following:

   - reading all labels
   - maintaining appropriate storage
   - adhering to withholding periods
   - determining the weight of animals
   - determining the correct dose rate
   - using protective clothing if required.

   Administering vaccination injections to horses should be carried out in a quiet, firm manner. A headstall and lead rope should be used and some animals, adverse to needles, may need to be twitched. For tetanus and strangles, use vaccines. For local disease incidence, seek advice from a veterinarian.

2. coat care and grooming (*Category 2*)

3. coat clipping (*Category 3*)
   Some horses may be extremely sensitive to the use of electric clippers, especially for body clipping. If horses need to be restrained for coat clipping, the use of a
nose twitch or tranquilliser should only be used following advice from a veterinarian. Generally, horses can be restrained using a headstall and lead rope.

15. **loading and unloading animals onto transporters** *(Category 3)*
Before students are involved in transporting horses, they should be used to leading horses and bandaging their legs. At least in the initial stages, use horses that are well used to being trucked or floated and trained to load and unload calmly and willingly. Involve students in initial float training of young horses, only after they have obtained considerable skills in handling horses. Loading should be carried out in a calm, quiet manner under close supervision. Whenever possible, emphasise the importance of step-by-step learning for the horse.

19. **fire branding of horses** *(Category 4)*
20. **freeze branding of horses** *(Category 4)*
Limited by the requirements of breed societies.

Brandling causes pain and, if it is required, it should only be carried out by an experienced person. Thoroughbred horses, both AJC and Stud Book registered, use freeze brands. Other breed societies use fire brands.

31. **artificial insemination** *(Category 5)*
32. **semen collection** *(Category 5)*
33. **pregnancy diagnosis** *(Category 4)*
The diagnosis of pregnancy in horses is made by rectal palpation and ultrasound. Diagnosis would only be carried out by a veterinary surgeon because of the danger of rectal tears.

35. **microchip tagging** *(Category 4)*

A veterinarian must perform this procedure. Antiseptic conditions and local anaesthetic must be used as improper implanting can lead to serious trauma or infection in the horse.

This method of identification is especially useful when skin brands are illegible.
Mice (House mouse)

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0007/48823/ratandmicewelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Varietal range difference

There are over 330 known species of mice. There is a huge variety of fur colour combinations and several different fur types such as long haired or curly haired.

Physical attributes

Size: approximate length from snout to base of tail is 7–9 cm. Approximate length of tail is 7–9 cm. Overall length is 14–18 cm.

Weight: adult male is approx. 20–40 g adult female is approx. 25–90 g

Age at adult size: 10–12 weeks
Average lifespan: 18–24 months
Weight at birth: 1–1.5 g
Gestation period: 19–21 days
Number of offspring: 8–11
Weaning age: 20 days
Range of breeding ages: 2.5–12 months is recommended

Healthy characteristics: Body temperature: 37–38°C Heart rate: c. 600 beats per minute Respiration rate: c. 160 per minute
Environment

Mice should not be housed with other species. A cage or nesting place should be seen as the animal’s home or domain and disturbed as little as possible. It must be remembered that environmental requirements of small mammals are complex and imperfectly understood. Cage designs are numerous and ever changing but it is important that they meet the standards required for safety, security, ease of cleaning, animal comfort and allow student observation.

Most pet shops supply plastic mouse cages that are well-designed or an unused aquarium, with a wire mesh lid, makes an excellent container. Avoid wire mesh floors through which feet and legs may be damaged. Ensure that there are no sharp projections and that the cage is easily cleaned and vermin proof.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Space
Minimum size of cage: height = 30 cm, Length 35 cm, Depth 28 cm plus litter.

Movement and exercise
While everyday activities give mice adequate exercise, they seem to enjoy exercise equipment if it is available. A running wheel is usually very well utilized. Elevated boxes and tubes, made of either cardboard or polycarbonate, make excellent exercise areas.

Temperature
18–25°C, if provided with good bedding and shelter during environmental extremes. Avoid large fluctuations in temperature.

Light
Preferably good natural lighting or artificial light with the full range of spectral colours, 45–60 lux. Cages should be kept out of direct sunlight and, within the cage, shelter should be provided for the mice. Students should be able to observe that mice will seek darkness if it is available to them. There should be 12-hour periods of both light and darkness.

Ventilation
Generous natural ventilation, without draughts, is required and safety from fumes and vapours (such as chemicals and ammonia from urine) should be provided.

Shelter
Not applicable as mice should be housed indoors. Adequate protection from predators and sunlight must be provided.

Bedding
Litter should be highly absorbent, dust-free, splinter-free, non-toxic, non-edible and not contaminated with pesticides or chemicals.

Suggested bedding includes uncontaminated dry straw, meadow hay, white sawdust, white shavings or shredded paper. Avoid glossy magazines as the inks used can be dangerous and treated wood because of the chemicals used.
Cleaning
Cages should be checked daily and replaced if wet. The cage should be thoroughly cleaned twice weekly, washed in a solution of detergent and hot water and thoroughly dried. New bedding should be supplied and old bedding disposed of appropriately. Mice should be returned to the same cage in the same site, as changes stress mice.

Nesting
Easily-shredded materials should be provided. Shredded paper, straw, soft cardboard, paper towels or cotton fibre are suitable. Cotton wool should not be used as it can wrap around the legs of young mice and cause injury.

Food and water requirements
Commerically-prepared mice pellets or cubes are recommended as they provide all the basic requirements. Refer to manufacturers’ recommendations for quantity to be fed. As a guide, mice up to 9 months of age or pregnant require 10gms of pelleted food per 100gms of body weight and adult mice require 5gms of pelleted food per 100gms of body weight.

Mice should be fed once a day only. All stale food and scraps must be removed for hygiene reasons. It should be noted that mice are great hoarders and the daily removal of scraps should include a thorough search of the sleeping areas. Table scraps, chocolate, chips or other junk food that is high in fats should be avoided as this may lead to obesity, tumours or heart trouble.

However, mice enjoy variety in their food so the diet can be supplemented with fresh fruit and vegetables and suitable seeds in small amounts. Feeds without high fat seeds such as sunflowers are more suitable than general mixes. Mouldy or rotten food should not be offered. Mice benefit from the addition of a small amount of hay in which they can nest and nibble to aid digestion. Bones, particularly chicken, or hard, untreated wood pieces should be offered for healthy teeth and gums and replaced regularly.

As mice like fresh food, it is sensible to purchase only small amounts. Lactating females must be provided with approximately four times the amount of food and water normally required by an adult mouse.

A clean, adequate supply of water must always be available. An adult mouse needs approximately 10 ml daily and a lactating female could require up to 14 ml daily in hot weather. As mice contaminate water in dishes and bowls, a suspended, gravity fed water bottle with a metal ball and tube sipper of adequate size is required. Water should be replaced daily and the bottle kept clean. The spout should be checked daily for correct flow as blockages occur frequently.

Handling
Mice need to be handled calmly and with care to prevent distress and injury to the animal and the handler. Well-designed refuges assist in catching. If mice hide under structures, such as elevated shelves or nest boxes, they can be easily caught without struggling.
Mice should be conditioned to being handled from a young age so that they are well prepared for handling by students.

**Normal behaviour**

Healthy mice are alert, active and inquisitive. They have bright, clear, open eyes. Their ears stand up straight and their fur is dense and sleek. The behaviour of mice in laboratory conditions depends on how many mice are caged together, the size and type of the cage, and the environmental conditions. Mice are very agile acrobats and normal caged behaviour includes running, jumping, standing on hind legs and climbing. They are social animals and should not be kept as solitary animals. If they are not breeding, mice are best kept in single sex groups that have been established shortly after weaning.

Mice are nocturnal animals and are far more active at night. They feed predominantly at night. During daylight hours, it is normal behaviour for mice to rest huddled together to conserve body heat. A healthy mouse sleeps curled in a foetal position and extension is a sign of ill health.

Mice are rarely aggressive but will bite if frightened. Some strains of mice are aggressive and are not suitable for use in the classroom. Cannibalism is rare but does occur. It is usually indicative of inadequate diet or poor maintenance. Males housed together should be monitored for aggressive behaviours and should this become evident, arrangements for individual housing should be made.

Pregnant females show nest building activity prior to birth and during lactation. During the breeding period, it is normal behaviour for the male to nibble the female’s head or body and to examine her ano-genital area, prior to copulation.

Mice may chew each other’s hair. This is called ‘barbering’. The mouse responsible should be separated.

**Disease prevention**

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records. Most diseases can be prevented by:

- selecting healthy stock
- maintaining hygienic living conditions
- providing adequate space and environmental stimulation
- ensuring food is fresh, inappropriate quantities and suitable for mice and
- observation and early detection of problems and seeking advice from a veterinarian.

**Signs of illness**

Any of the following symptoms may indicate illness:

- reluctance to move
- unkempt, erect coat
- breathing difficulties and/or increased respiratory rate
• hair loss, skin redness and scaling and/or scabbing especially around the head or shoulders may be an indication of mites, lice, ringworms or other fungus
• discharge from the eyes, nose, urinary or genital organs
• coughing and sneezing
• constant scratching, lack of balance, stumbling or stiff legged gait, soft faeces with an unpleasant smell
• loose skin, which is a sign of weight loss
• prostration, extension, bumps or lumps which can indicate possible growths or abscesses.

Animals with any of these symptoms should be isolated immediately from other animals and their cages fully disinfected. A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with mice. Any signs of illness or injury, and treatment given, should be documented in the appropriate records.

**Euthanasia**

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

**Disposal**

A disposal plan needs to be considered before using an animal in any program. Young can be placed in a new home soon after weaning, provided that they are healthy and gaining weight. The new owner should be given accurate information on housing, diet, health care, parasite control, handling and grooming. Breeding in schools is not recommended.

**Suggested resources**

**Websites**

Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 15 October 2008
www.adelaide.edu.au/ANZCCART

RSPCA, 2007, RSPCA.org, viewed 15 October 2008
www.rspca.org.au

Petalia, A world of Pet Care, 2000, Petalia™, viewed 15 October 2008

**Printed texts**


Approved activities: mice

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activities
   • Observation of the normal behaviour of animals (Category 1)
     To avoid frightening mice during observation, students should be kept at a reasonable distance.

B. Low impact activities
   • Breeding of mice in the classroom (Category 2)
     Mice may not be bred for the purpose of dissection.
   • The appropriate care of classroom pets (Category 2)
     A plan for the disposal of surplus animals must be in place prior to beginning this activity. If killing is the only disposal option, then the breeding program is not allowed.
     The male and female mice should be separated prior to the female giving birth. At weaning, offspring should be separated into single sex groups.
   • Capture, restraint and handling (Category 2)
     Only mice that are accustomed to being handled should be used.
     All handing should be gentle and unhurried. Sudden, loud noises and jerky movements must be avoided at all times. Mice must be handled regularly if it is intended that they remain tame.
     Adult mice may be safely lifted by the base of the tail but never by the tip of it. After being lifted, the mouse should be placed immediately onto a firm surface such as the back of the hand or a table, while still being held but not dangled in the air. Mice can also be picked up by closing the hand almost completely around them. Handle mice gently to avoid any accidental injury.
A mouse can be grasped by the scruff of the neck to immobilise it or enable examination underneath. The only way to adequately restrain a mouse is to grasp the skin on the back of the neck firmly and with the other hand, or the third and fourth fingers of the hand holding the scruff, hold the base of the tail.

C. Non-invasive measurement of
   1. body weight (Category 2)
   2. body condition (Category 2)
   3. growth (Category 2)
   4. body proportions (Category 2)

Students should have prior training and experience in the capture, restraint and handling of mice. Students can observe mice, noting details of their growth, e.g. weighing and measuring body proportions. Students should be encouraged to design methods of measuring mice, while minimising the level of restraint used. To meet the educational objectives, mice should be restrained for the shortest possible time.

D. Measurement of mild dietary effects
   4. palatability (Category 3)

For small animals such as mice and rats, the only dietary effect that should be investigated is the palatability of different foods. Due to their small size, it is unacceptable to vary or restrict the quantity or quality of the feed provided to mice.
Pigs

For health reasons, pigs are not suitable for keeping in residential areas and are considered not suitable for the school situation. The following information has been provided for teachers who wish to take students on excursions to study the animal husbandry for pigs and commercial production of pigs.

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

There is not a separate code within TAMS for the welfare of pigs.

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the
risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report forma and forwarded to workplace relations and Government Legal and Liaison section.

**Varietal range difference**

Most common breeds are:

- Large White
- Landrace
- Hampshire
- Duroc
- Berkshire
- Large Black
- Tamworth
- Wessex Saddleback.

**Physical attributes**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size:</td>
<td>Medium size farm animal up to approximately 180 kg</td>
</tr>
<tr>
<td>Weight:</td>
<td>Porker: 45 kg Baconer: 90 kg Breeding sow: 120 kg</td>
</tr>
<tr>
<td>Age at adult size:</td>
<td>9–10 months (105–120 kg)</td>
</tr>
<tr>
<td>Weight at birth:</td>
<td>0.8–1.6 kg</td>
</tr>
<tr>
<td>Gestation period:</td>
<td>3 months, 3 weeks, 3 days (114–115 days)</td>
</tr>
<tr>
<td>Number of offspring:</td>
<td>Up to 20 piglets</td>
</tr>
<tr>
<td>Sexual maturation:</td>
<td>A gilt may be mated by about nine months if she is well developed.</td>
</tr>
<tr>
<td>Breeding life:</td>
<td>8–9 years.</td>
</tr>
<tr>
<td>Weaning age:</td>
<td>6–8 weeks</td>
</tr>
<tr>
<td>Healthy characteristics:</td>
<td>Temperature: 38.8–39.7ºC</td>
</tr>
<tr>
<td>Heart rate:</td>
<td>60–80 beats/min, taken inside a hind knee or over the heart.</td>
</tr>
</tbody>
</table>

**Environment**

**Please note:** It is no longer appropriate to routinely use farrowing crates for the housing of sows just prior to and during farrowing and up to weaning.

Management systems for farrowing that provide the following are recommended:

- Space for the sow to move around.
- Nesting material for the sow and piglets. Animals
- Safe (creep) area for the piglets, reducing the chance of injury or death due to squashing.

There are a number of options that can be used to develop a system that meets the physical and behavioural needs of the sow and piglets. In general, the pig production system should provide the maximum amount of space and environmental...
enrichment, and for dry sows, boars and growers access to the outdoors. When piglets are raised in less intensive conditions, the need for routine teeth clipping and tail docking is greatly reduced and may not be required at all.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

**Space**

Pigs require sufficient space for each one to lie with limbs extended, to be able to stretch and move freely, to sleep, feed and dung. Pigs with adequate space, dung in a different area to their sleeping area. They must have enough space to have a clean, dry place on which to lie.

Recommended space:
- porkers: 1.5 m² per pig.
- baconers: 2.1 m² per pig.

**Movement and exercise**

When space is provided, exercise is usually obtained through interactions such as seeking food, water and playful behaviour that is often quite physical.

Pigs are intelligent and inquisitive animals and should be provided with some environmental enrichment, e.g. tyres, hanging chains, balls.

Growers and weaners, in particular, respond well to environmental enrichment and with enough space and stimulus the need to carry out tail docking is greatly reduced.

**Temperature**

Optimum growth temperature is 22.2°C. For farrowing sows 18–21°C, growing piglets 26–40°C.

**Light**

Artificial or natural light is required as it provides a better environment for growth and health.

**Ventilation**

Fresh air is required to prevent a build-up of poisonous gases, in particular ammonia. Ventilation should be designed to let fresh air in without causing draughts.

**Shelter**

Pigs must have access to shady conditions which helps prevent painful sunburn and overheating. Pigs require sunlight but are susceptible to sunburn. Particular care needs to be taken with white breeds.

**Bedding**

Pigs must be provided with a dry area for sleeping. This may be provided by dry nesting material, such as straw or rice hulls, in a restricted area away from the excreting area.

**Cleaning**

Use a hose in well-drained piggeries or a shovel to remove solid waste. Alternatively, flushing drains, which self-clean, can be installed.
Food and water requirements

Type
Use pellets as a commercial diet to suit animal type and growth stage, e.g. Pig Grower, Pig Finisher, Sow Pellets, Piglet Creep Feed.

Note that the feeding of food scraps, called swill, is illegal.

Quantity
Most producers feed ad lib through to slaughter, but good references are available to provide recommendations for diet formulation for the various stages of production.

Regularity
Feed ad lib to piglets, growers, finishers and pregnant and lactating sows. Dry sows and boars should be fed daily in amounts sufficient to maintain condition.

Water
A clean, adequate supply of water, placed in a cool, shaded area in hot weather. If automatic nipple drinkers are used, they should always be fitted with a failsafe mechanism.

Handling
Pigs need to be handled calmly and with care to prevent distress and injury to the animals and the handlers. Pigs cannot be led by the head. Drive the animal from behind by using an open hand to slap on rump or flank region. Often, a straw broom or flapper used to tap the side of the neck will assist with directional change.

Normal behaviour
Healthy pigs are vigorous and alert. They have a moist snout, warm ears and skin in good condition. They have a good appetite, firm dung and breathe steadily. A grunt is common when they are disturbed. Pigs generally seek the company of other pigs as they are inquisitive by nature and playful with others.

With the exception of pregnant sows, adult boars and sick animals, pigs should not be kept as solitary animals.

Disease prevention
Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian or NSW Agriculture officer. Any activities must be documented in the appropriate records.

Movement of pigs
There are restrictions relating to the movement of pigs. To ensure you abide by the appropriate legislation, contact the Rural Lands Protection Board and NSW Agriculture.
Signs of illness

The first sign noticed is a change in the pig's natural demeanour. It may be listless or lethargic. Closer examinations may show:

**variations in:**
- gastrointestinal functions such as diarrhoea, weight loss or loss of appetite
- urogenital functions, e.g. abortion, infertility or abnormal discharges
- respiratory functions such as persistent coughing, gasping or panting; or

**evidence of:**
- skin conditions, e.g. lesions, abnormal growths or red blotchy patches especially on the ears
- a tucked up appearance, stiff gait, or abnormal posture
- excessive scratching or rubbing
- swollen joints or limping.

A failure to thrive or grow is another sign of illness. Pigs are prone to diseases associated with arthritis, foot abscess and minor wounds. Sick pigs should be removed to a hospital pen for treatment.

If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with pigs. Any signs of illness or injury, and treatments given, should be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

Disposal

Pigs can be sold privately, at auction or consigned to an abattoir. Carcasses must be disposed of in accordance with local council regulations.

Suggested resources

**Web sites**
Breeds of livestock, 2008, Oklahoma State University Board of Regents, viewed 15 October 2008
www.ansi.okstate.edu/breeds/


RSPCA, 2007, RSPCA.org, viewed 15 October 2008
www.rspca.org.au

www.publish.csiro.au/pid/5698.htm
**Printed texts**


NSW Agriculture *Agfacts: Information sheets*, Australia.

NSW Department of Agriculture and Fisheries, *Pig Breeding By Artificial Breeding Manual*, Australia.


**Contacts**

The Animal Welfare Authority  
Department of Territory and Municipal Services (TAMS)  
PO Box 249  
CIVIC SQUARE ACT 2608  
NSW Agriculture  
Local Council  
Local farm supplies trader

**Approved activities: pigs**

**Please note:**

The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

**A. Very low impact activity**

- **Observation of the normal behaviour of animals** *(Category 1)*

Generally, pigs welcome attention and will be more than interested in their visitors. Students need to be aware that excessive noise is not desirable.

Students can observe the normal pig behavioural patterns and compile a short list of actions observed over a designated period. Observations can be made in a small, modern piggery or on a free-range facility.
B. Low impact activity

- Capture, restraint and handling (Category 2)
  Different age groups require different handling methods. Capture should be done quickly and firmly. Piglets may be caught from behind and lifted by one or both hind legs. The use of a wall or corner is advisable when handling middle-weight range animals.

Older pigs are too heavy and difficult to restrain without excessive force. Pig catchers may be used in order to capture and restrain older and larger pigs.

These activities should be completed quietly and kindly. Long periods of restraint are not recommended and often lead to loud squealing.

Comfortable restraint will extend the capture time. Continual training can lead to well-behaved animals that know exactly where to go at the right time.

Pigs may be moved by driving. Use pig boards and sheets of metal to create a path.

C. Non-invasive measurement

1. body weight (Category 2)
2. body condition (Category 2)
3. growth (Category 2)
4. body proportions (Category 2)
   To assist the movement of stock, handling recommendations should be observed. Only animals that are accustomed to handling should be used. The physical measurement of body weight should take a short period of time so that stress levels are reduced.

Ultrasound backfat testers are now routinely used in piggeries. They are expensive pieces of equipment.

To gain accurate measurements, it is recommended that at least four animals are monitored. If a greater number is present in the litter or group, include all available animals in your measurements.

5. pulse or blood flow (Category 2)
6. respiration (Category 2)
7. skin temperature (Category 2)
   Quick and accurate measurements can be obtained by confining a pig in a small area. Animals that are accustomed to handling should be used. A single animal will do, however, a second pig allows comparisons to be made and improves the accuracy of results.
F. Collection of samples from livestock

2. milk (Category 2)

3. faeces and urine (non-invasive) (Category 2)

5. saliva (Category 2)

Collection of faeces and urine will not require restraint as samples are readily available. Collection of milk and saliva may require the pig to be restrained using a farrowing crate. Only pigs that are accustomed to handling should be used. Milk is usually collected so that frozen colostrum can be stored for orphan piglets. A single animal is adequate, however, in order to obtain all four samples, several animals, in a variety of physiological states, may be required.

G. Standard husbandry activities

1. administering treatments

topical
  • backline (Category 3)

oral
  • drench (Category 3)

injection
  • subcutaneous (Category 3)
  • intramuscular (Category 3)

It is important to maintain a program of vaccination and control of all internal and external parasites for all pigs. When treating for internal and external parasites, all animals should be treated at the same time. These programs need to be documented in the appropriate records.

When using vaccines, drenches or any other animal care chemicals, care must be taken and noted about the following:
  • reading all labels
  • maintaining appropriate storage
  • adhering to withholding periods
  • determining the weight of animals
  • determining the correct dose rate
  • using protective clothing if required.

When injecting, ensure the needles are sharp and sterile, and that each pig is adequately restrained. Choose the site for the injection and clean away loose dirt. After the injection, remove the syringe before the plunger is released. Iron injections, when used, are applied intramuscularly in the neck region. Iron injections are not necessary for free-range pigs with access to soil.

Treatments for internal and external parasites, using injected drugs, are now routine. The procedure must be demonstrated by a suitably trained person.
Oral medications are generally associated with the control of scouring. Careful restraint is required to ensure the entire dose is swallowed. Smaller animals can be held in an upright position while larger animals need to be held with the head tilted slightly.

Quick application means that prolonged restraint is unnecessary. Gravity-fed applications are most effective so tilting the animal’s head helps. Treat all animals that show signs of parasite infestation and scouring. Professional recommendations may suggest treatment of the remaining animals.

Non-treatment can result in long-term suffering and possibly death.

4. **ear marking and tagging** *(Category 3)*

Ears are marked or tagged to aid identification. In commercial piggeries, small V-shaped marks are notched in the ear according to the pig’s age and sex.

Pigs should be tagged after weaning with the animal restrained in a comfortable position that reduces head movement. Application is quick and simple. Ear tag pliers cause minimal stress due to the speed of the operation. If ear marking is preferred, special ear marking pliers, with a V-shaped cutting pattern, need to be purchased. To help prevent infection, ensure all equipment is disinfected after each pig. Using small pens to restrict movement is helpful.

Marking often requires several cuts to be made so more physical restraint is required over a longer period. A second person must be available to restrain the pig and prevent it from moving. As the weaned pig is approximately four weeks old, it may be held in the arms against the chest. If individual identification is not required then this activity does not need to be undertaken. Marker pens allow short-term identification but markings tend to wear off over time.

5. **tattoo application (branding)** *(Category 3)*

Tattoo irons are purchased prenumbered. Spike-like projections form a number in a dot-to-dot format.

Smother the number with tattoo ink and slap the tattoo iron onto the pig’s rump and shoulder. The pig feels slight discomfort as effective tattooing requires reasonable force to be applied. If you are too gentle, a second attempt may be required, this means unnecessary stress for the pig. Clean and sterile applicators should be used.

The activity is quick and, generally, does not require pigs to be restrained. Pigs can be tattooed in their normal grower pens as tattooing relies on the element of surprise. Follow the animal until the rump or shoulder is exposed, then swing the iron onto the target area. After tattooing, remove the iron, re-ink and move to the next animal.

Small holding pens are ideal as there is no need to chase the animals. All producers are required to possess, and use, a registered brand on all pigs sold for slaughter at commercial abattoirs. Branding is required identification and traceback of stock for disease monitoring purposes. In NSW, the Rural Lands Protection Board controls registered brands.
27. **tail docking piglets**

- **knife (Category 4)**

Tail docking is done to reduce tail biting that may occur when pigs are bored.

Piglets raised in extensive conditions will not require tail docking.

When required, tails are docked leaving a stump of two to three centimetres in length. This activity should be carried out within the first week, preferably when the piglet is one day old.

28. **teeth trimming and removal (Category 4)**

Teeth trimming is done to reduce the chance of piglets injuring the sow and each other. It is most commonly carried out in intensive piggeries and is not generally required when piglets are raised under more extensive conditions.

If it is to be done, it should be carried out within the first week, preferably when the piglet is one day old. Holding the piglet behind the neck causes it to automatically open its mouth. The eyeteeth are trimmed top and bottom, just above gum level. Take care not to cut the gum as this can cause abscessation.
Rabbits

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0004/57163/rabbitcop.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Varietal range difference

The rabbit was once classified as a rodent but, because of a second pair of incisors on the upper jaw and no canines, rabbits are now classified in the family Leporidae. There are a variety of rabbit breeds, divided into three main groups:

- Californian and New Zealand White rabbit, large size, 2–5 kg, bred for meat and research.
- Smaller breeds, up to 2 kg, from Holland and Poland, used as pets and as research animals.
- Long haired Angora varieties.

Note: domesticated rabbits differ from the wild rabbit and they are generally capable of breeding all year round. Domesticated rabbits are induced ovulators as apposed to wild rabbits. Wild rabbits are seasonal breeders with a defined oestrous cycle (see: Myers, K and Poole W E (1962) A study of the biology of a wild rabbit, Oryctolagus cuniculus (L.) in confined po;ulations. Lll. Reprodocation. Aust.J.Zool. 10, 225-67.)
### Physical attributes

**Size:** Depends on country of origin.

**Weight:** New Zealand White rabbits are large, approx. 2–5 kg. Smaller varieties average approximately 2 kg.

**Age at adult size:** Male: 6–10 months
Female: 5–9 months.

**Average life span:** Normally 6–8 years. Some have survived for 12 years under ideal conditions.

**Weight at birth:** 30–100g.

**Gestation period:** 30–32 days.

**Number of offspring:** 4–9, litter size is determined by birth weight.

**Weaning age:** 42–56 days

**Range of breeding ages:** 4–36 months. On average, rabbits breed four times each year.

**Healthy characteristics:**
- Body temperature: 38–39°C
- Heart rate: 180 beats per minute
- Respiration rate: 50–55 per minute.

### Environment

Rabbits need adequate protection from rain, wind, direct sunlight and extremes of temperature.

Rabbits may be housed indoors or in less intensive conditions outdoors, with access to fresh grazing. Housing should also be escape proof and situated either inside a building or within observation from a building. An enclosed sleeping area is required. Exposed mesh flooring is not recommended as it is dangerous and can cause broken legs or injury to the feet.

Whether keeping rabbits intensively or in an outdoor system, the housing area must be kept clean. Rabbits become agitated if their cage is unclean or moved frequently. The cage should be cleaned every second day and thoroughly cleaned weekly.

Rabbits kept indoors should be housed in a well lit and ventilated area, away from draughts, fumes and noise, and at a temperature between 16°C and 25°C. For optimum health and well-being, however, the average temperature should be kept between 16°C and 21°C. Rabbits are extremely susceptible to excess humidity. They should not be placed in the following positions:
- near windows, especially during winter or midsummer
- in direct sunlight
- in draughts from ventilators, windows or doors
- in fumes of any kind, over or near heaters
- where access is difficult.

Keeping rabbits isolated, in an area without windows, adequate ventilation or contact with humans or other rabbits is unacceptable.
Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

**Space**
Rabbits require a floor area according to the animals’ age and activity level. In general, young rabbits need more space than adults for play and behaviour.

A minimum clear area of 2.0 m² should be provided with a minimum length in one direction of 2 metres.

The Guidelines for the housing of rabbits in scientific institutions describes the minimum space requirements for rabbits as follows:

<table>
<thead>
<tr>
<th>No. of rabbits</th>
<th>Minimum space (m²) (*ensure a CLEAR area of 2m² and a minimum length in one direction of 2m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>2.00</td>
</tr>
<tr>
<td>3</td>
<td>2.25–2.40</td>
</tr>
<tr>
<td>4</td>
<td>3.00–3.20</td>
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<tr>
<td>5</td>
<td>3.75–4.00</td>
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<tr>
<td>6</td>
<td>4.50–4.80</td>
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<tr>
<td>7</td>
<td>4.75–5.05</td>
</tr>
<tr>
<td>8</td>
<td>5.00–5.30</td>
</tr>
</tbody>
</table>

Overcrowding must be avoided at all times as aggression will begin after three months of age. Overcrowding also causes large losses in body weight and problems with liver, spleen and kidney. In crowded situations, the young tend to be born stunted.

Male rabbits over 3 months of age should be housed individually.

**Movement and exercise**
All rabbits should have an adequate exercise area.

The minimum space provided should allow each rabbit to carry out its normal behaviour, including a wide range of locomotory behaviours, such as hopping, leaping, playing, exploring and stretching out. It has been suggested that the minimum space provided should allow rabbits to complete three hops in one direction.

In addition to meeting minimum space requirements for movement, space should be provided to allow the provision of structural complexity and environmental enrichment in pens. Environmental enrichment is essential for the rabbit’s health and well-being and is supplied by such devices as jump boxes, resting boards, and PVC or terracotta tunnels. These relieve boredom.

The height of pens should be great enough to allow the rabbits to rear up on their hind legs and sit up erect with ears pricked. Rabbits commonly sit on top of nest boxes and ledges and again the pen height should be great enough to allow this without risking the chance of the rabbit jumping from the pen.
Transport
Rabbits can become very stressed during transportation as they are extremely sensitive to heat. Rabbits should not be transported in temperatures above 30°C.

Temperature
Avoid moving rabbits frequently from indoors to outdoors, particularly if this results in extreme changes of temperature.

Shelter
If rabbits are housed outdoors, hutches provide protection from adverse weather. These may be wooden or metallic. Aluminium is preferable to galvanised iron as it is more resistant to urine and has a longer life. Extreme care must be taken so that predators such as dogs, cats, owls and goannas do not frighten the rabbits and cause stress. Rabbits must be housed indoors at night.

To assist with myxomatosis control, mosquito screening is advisable.

In intensive housing systems, hepatic coccidiosis may occur if rabbits are kept on a total solid floor. Cage floors often have mesh wire for ease of cleaning and portability. To minimise problems with rabbits catching hocks in the mesh, suggested mesh sizes are 19 by 19 mm for adults and 13 by 13 mm for kittens. Mesh is not recommended.

An area of solid floor should also be provided for the rabbit to sit upon. This may be a piece of wood or a rubber mat.

As rabbits eliminate large amounts of faeces and urine, cleanliness is imperative at all times. Rabbits can be trained to use litter trays for urination, but not always for defecation. Toilet areas and litter trays need to be cleaned with a solution of dilute bleach and hot water.

Cages must be cleaned every second day except when a new litter is born. The litter must not be disturbed for approximately one week to prevent the doe from eating her young. Shortly after weaning, separate the young does and bucks as they are capable of reproducing at an early age.

Bedding
Straw, coarse sawdust or softwood shavings are suitable. If metal hutches are used, a wooden nesting box with straw is required for breeding. Do not use wicker baskets as they are gnawed easily. Approximately one week before parturition (birth), the doe will pull fur from her body to line the nesting area. Bedding and refuse must not be composted but should be either burnt or wrapped in newspaper and disposed of properly. Hutches should be disinfected weekly, then rinsed thoroughly.

Food and water requirements
Rabbits would be fed at least once daily, preferably twice, and all stale food scraps removed as a hygiene measure to discourage vermin. Rabbits are vegetarian with a high requirement for fibre in their diet. Their diet should consist of:
- fresh commercially prepared rabbit pellets and/or mix
- fresh uncontaminated Lucerne hay
• supplemented with fresh fruits, vegetables, grasses, herbs, grains and treats
• a block of untreated timber of unsprayed fruit tree wood for chewing on.

Rabbits should not be fed any food that has fine dry powder. Some plants are toxic to rabbits and care should be taken when providing fresh foods to avoid these. (See the code of practice for further information)

A clean, fresh and reliable supply of water is necessary. In the last stage of pregnancy and while lactating, does require extra food and water.

Handling

Rabbits need to be handled calmly and with care to prevent distress and injury to the animal and the handler. Well-designed refuges assist with catching. If rabbits hide under structures, such as elevated shelves or nest boxes, the design should allow them to be reached and restrained easily. As a preventative measure to avoid scratches to handlers, all nails should be kept trimmed.

Normal behaviour

Healthy rabbits have sleek coats, clear, bright eyes and alert ears. The ears are used for cooling the body as well as for hearing.

Rabbits consume large amounts of food. They have powerful rear limbs, which may cause painful scratches if the animal is not properly restrained.

It is recommended that rabbits be kept with a mate. In order to control breeding while providing companionship, suggested mates include two compatible females, two desexed males or a female with a desexed male.

Rabbits housed in wire cages may catch and injure limbs or develop hock sores. Even though rabbits can sit for hours, or even days, without signs of distress, inactive animals should be checked for injury.

Extreme temperature changes will affect rabbits and they become stressed at temperatures greater than 27ºC. Other causes of stress are overcrowding and exposure to predators such as cats, dogs, owls, foxes and goannas.

Disease prevention

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records. All rabbits require an annual vaccination to protect them against the rabbit calicivirus and myxomatosis.

Rabbits should be handled and examined daily to check for the following symptoms. Those marked with a (v), require veterinary attention.
Signs of illness

The first sign noticed is a change in the animal’s natural demeanour. It may be listless or lethargic. Closer examinations may show:

variations in:
• body temperature
• gastrointestinal function, e.g. diarrhoea (especially with a distinct odour (v)), weight loss or loss of appetite (e.g. off food for longer than a day (v)), firm boated stomach (v), no faecal pellets evident in the hutch (v)
• urogenital function such as abortion, infertility or abnormal discharges
• respiratory function, e.g. sneezing (v) or loud breathing (v)

evidence of:
• sores on the hocks or any place on the body (v)
• persistent white dandruff with red skin and scabs (v)
• inactive or sitting hunched over with closed eyes (v)
• a tucked up appearance, head carried to one side (v), stiff gait or abnormal posture, patchy coat or loss of hair
• excessive and persistent scratching or rubbing of the ears or other areas of the body (v)
• swollen eyes or genitalia (v)
• wetness around the nose or slobbering around the mouth (v)
• weepy eyes that persist after cleaning (v)
• or drinking very little of no water (v)
• grinding teeth (v)
• lump felt below the skin (v)

A failure to thrive or grow is another sign of illness. If unable to identify and correct the cause of ill-health, assistance should be sought from a veterinarian who is familiar with rabbits. Any signs of illness or injury, and treatments given, should be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian. It is illegal under the Animal Welfare Act 1992 to abandon or release an animal.

Disposal

A disposal plan needs to be considered before using an animal in any program.

For further information about the care and use of Rabbits in the ACT refer to the Animal Welfare Standards – Code of practice for Rabbit Welfare (see resource list).
Suggested resources

Web sites

NSW Agriculture, 2005, State of New South Wales, viewed 16 October 2008

Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 15 October 2008
www.adelaide.edu.au/ANZCCART

RSPCA, 2007, RSPCA.org, viewed 15 October 2008
www.rspca.org.au

Petalia, A world of Pet Care, 2000, Petalia™, viewed 15 October 2008

Printed texts

NSW Agriculture, Agfacts: Information sheets, Australia.

Contacts
The Animal Welfare Authority
Department of Territory and Municipal Services (TAMS)
PO Box 249
CIVIC SQUARE ACT 2608

NSW Agriculture
Local council
Local farm supplies trader

Approved activities: rabbits

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activity

• Observation of the normal behaviour of animals (Category 1)
A trained and regularly-handled rabbit will hop quietly around a room. Keep the class at a reasonable distance from the rabbit and avoid sudden noise or
movement. A rabbit can inflict painful scratches if stressed, so some care is necessary. If the animal panics, do not continue the observation period.

A rabbit is a relatively clean animal. During an observation period, it may be allowed to move freely around the classroom as long as the door is shut.

B. Low impact activities

• Breeding of rabbits in the classroom (Category 2)
  Rabbits may not be bred for the purpose of dissection.

• Capture, restraint and handling (Category 2)
  A rabbit can be easily captured and handled if movements are calm and confident. Do not allow too many students to attempt to handle the animal at one time.

  The correct method of handling a rabbit is to grasp the skin at the back of its neck firmly but gently with one hand, and to support the rump with the other hand. A rabbit will sense any insecurity in the handler and may struggle, possibly breaking its back or scratching the handler. A rabbit must never be picked up by the ears or by the hind legs as it will probably break its back.

  For larger rabbits, the handler should grasp the ears and the skin at the back of the neck with one hand and support the rump with the other hand.

C. Non-invasive measurement

1. body weight (Category 2)

2. body condition (Category 2)

3. growth (Category 2)

4. body proportions (Category 2)

5. pulse or blood flow (Category 2)

6. respiration (Category 2)

It is possible to set up a weight–age and size–age chart for a number of rabbits and monitor them over a period of 10 weeks. Use a pre-weighed container of appropriate size and a triple beam balance or a bucket balance to determine the weight.

A measuring tape can be used to determine overall length, girth, and size of skull. When measuring a rabbit’s dimensions, care should be taken not to exert too much pressure on the trunk, particularly of pregnant females.

G. Standard husbandry activities

1. administering treatments

topical (Category 3)

Lice and fleas can be controlled by dusting the animals with insecticide powder suitable for use on pets.
2. **coat care and grooming** (*Category 2*)

In laboratory and school situations, a rabbit’s claws grow continually and need to be cut regularly by an experienced handler. Care must be taken not to cut blood vessels. Angora rabbits need their fur clipped at regular intervals. This activity should be carried out in a way that does not stress the rabbit. Cuts and scratches should be treated with antiseptic creams or powders.

Rabbits may be identified using unique leg rings, ear tattooing and micro-chipping. The later must be administered by a veterinarian.
Rats (Norwegian Rat)

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 2009 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0007/48823/ratandmicewelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

**Varietal range difference**

- Albino
- Hooded.

Commercially available laboratory stock are all strains of the above species.

Mutations and hybridisations have led to rats in a multitude of coat colours and pattern combinations.

**Physical attributes**

Size: Length from snout to base of tail is 17–21 cm. Length of tail is 20–23 cm. Overall length is 37–44 cm.

Weight: Adult male approximately 200–400g
        Adult female approximately 250–300g

Age at adult: 12–14 weeks

Average lifespan: 3 years

Weight at birth: 5–6 g

Gestation period: 20–23 days
Number of offspring: 9–11
Weaning age: approximately 21 days
Range of breeding ages: 3–15 months recommended
Healthy characteristics: Body temperature: 37–38°C
Heart rate: c. 300 beats per minute
Respiration rate: c. 100 per minute

Environment

Rats should not be housed with any other species.

Adequate protection from rain, wind, predators (including cats and dogs); direct sunlight, and extremes of temperature (below 10° C and above 26° C) must be provided as well as ventilation and safety from fumes and vapours (e.g. car exhausts, chemicals, ammonia from urine).

A cage or nesting place should be seen as the animal’s home or domain and disturbed as little as possible. It must be remembered that environmental requirements of small mammals are complex and imperfectly understood.

Steps should be taken to ensure that animals can be attended to promptly in the event of fire, flood, injury or disease.

Space

Minimum size of the cage must be: height 44 cm; depth 28cm and length 35 cm. Adults and juveniles up to 450 g require an area of 500 cm² per rat. Adults and juveniles above 450 g require an area of 1cm² per rat. Cages must:

- be predator proof
- exclude vermin which may be attracted to food
- provide adequate protection from heat and cold
- provide continuous access to water
- provide generous ventilation and be safe from fumes and vapours
- be easily cleaned
- be safe for the occupants i.e. have no sharp projections, and not have a wire mesh floor through which feet and legs may be damaged
- provide opportunities for sufficient exercise
- cage doors should not open inwards.

Movement and exercise

Research shows that rats do not appear to use physical exercise to maintain muscle tone or to work off reserve fat. Caged rats spontaneously exercise by playing with cage mates or during feeding. Opportunities for exercise must be provided.

Elevated boxes and tubes, made of either cardboard or polycarbonate, make excellent exercise areas. Other suitable accessories include: bricks, exercise wheels, toilet rolls, platforms, ladders, commercial toys, commercial chews, terracotta pipes and ropes for climbing.
**Temperature**

The optimum temperature range for rats is from 18–21°C. Avoid large fluctuations.

**Light**

Preferably, good natural lighting or artificial light with the full range of spectral colours, 45–60 lux. Cages should be kept out of direct sunlight. Shelter should also be provided within the cage to allow the rats to avoid light. Students should be able to observe that rats will seek darkness if it is available to them. There should be 12-hour periods of both light and darkness.

As Albino rats are sensitive to light, they should be kept under low light intensity except when being examined. Rats with dark pigmented eyes are more suitable for the classroom.

**Ventilation**

Ensure good natural ventilation, without draughts and safety from fumes and vapours.

**Shelter**

Not applicable as rats should be housed indoors.

**Bedding**

Litter should be highly absorbent, dust free, splinter-free, non-toxic, non-edible and not contaminated with pesticides or chemicals. Suggested bedding is dry straw, meadow hay, white sawdust, white shavings, clean shredded paper, soft cardboard, rice hulls or absorbent paper pellets. (Avoid glossy magazines as the inks used can be dangerous and treated wood because of the chemicals used.)

**Cleaning**

Cages should be checked daily with wet and soiled material removed. They should be thoroughly cleaned twice weekly, with a solution of detergent and hot water and thoroughly dried. New bedding should be supplied and old bedding disposed of in a suitable manner.

**Nesting**

Easily shredded materials should be provided. Shredded paper, straw, soft cardboard, paper towels or cotton fibre are suitable. Cotton wool should not be used as it can wrap around the legs of young rats and cause injury.

**Food requirements**

Commercially prepared rat pellets or cubes are recommended as they provide all the basic requirements. See manufacturers’ recommendation for appropriate quantities. However, as rats are omnivores and enjoy variety in their food, the diet can be supplemented with fresh fruit and vegetables. Rats should be fed once a day.

Rats should not be fed mixed nuts and seed feeds due to their tendency to only pick out the seeds high in fats. Rats’ teeth grow continuously, so a gnawing material, such as blocks of untreated timber, bones (especially chicken bones) must be included to prevent overgrowth.
As rats like fresh food, purchase small amounts only, mouldy or rotten vegetables should not be offered and stale food and scraps should be removed daily. Lactating females must be provided with approximately four times the amount of food and water normally required by an adult rat.

Avoid table scraps, chocolate, chips or other ‘junk’ foods that are high in fats that may lead to obesity tumours or heart trouble.

Daily food allowances are for rats up to 9 months of age, or pregnant, 10 gm /100 gm body weight of pelleted food. For adult rats, 5 gm/100 gm of body weight.

A clean, adequate supply of water must be available. In hot weather, an adult rat needs approximately 50 ml of water daily. As rats contaminate water in dishes and bowls, a suspended feeder bottle of adequate size is required. A receptacle should be provided underneath to prevent the water dripping into bedding. The water should be replaced daily, the bottle kept clean, and the spout checked daily for correct flow as blockages occur frequently.

**Handling**

Rats need to be handled calmly, regularly and with care to prevent distress and injury to the animal and the handler. Well-designed refuges assist in catching rats. If rats hide under structures, such as elevated shelves or nest boxes, they can be easily caught without struggling. For specific handling techniques, see the Approved Activities: rats in this section.

**Normal behaviour**

Healthy rats are alert, active and inquisitive. They have clear and wide open eyes. Their ears stand up straight and their fur is dense and sleek. Normal caged behaviour includes running, jumping, standing on hind legs and some climbing, if cage facilities allow. Male rats are more aggressive than females and more inclined to bite. Rats rarely bite without provocation and, then, only once, not repeatedly.

Rats are social animals and are best kept in single sex pairs or groups, preferably from the same litter, unless they are intended for breeding. They should not be kept as solitary animals.

Some males are prone to excessive aggressive behaviour or fighting. If any sign of either of these traits is present then the males should be housed separately.

Rats are nocturnal animals and, of course, are far more active at night. It is normal behaviour for rats to rest huddled together to conserve body heat during daylight hours. A healthy rat sleeps curled in a foetal position. Extension is a sign of ill health. Cannibalism is rare but does occur and is usually indicative of inadequate diet or maintenance. Pregnant females show nest building activity prior to birth and during lactation. During the breeding period, it is normal behaviour for the male to nibble the female’s head or body and to examine her ano-genital area prior to copulation.
**Disease prevention**

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian.

All activities must be documented in the appropriate records.

**Signs of illness**

Any of the following symptoms may be an indication of illness:
- discharge from eyes, nose, urinary or genital organs
- sores, scabs or areas of fur loss
- coughs and sneezing
- lumps under the chin due to enlarged glands
- constant scratching
- lack of balance, stumbling or stiff legged gait
- soft faeces with unpleasant smell
- loose skin (a sign of weight loss), prostration or extension
- lumps in or under skin due possibly to tumours or abscessation

Excessive grooming by rats can be an indication of stress. A failure to thrive or grow is another sign of illness. If the cause of ill health cannot be identified or corrected, seek assistance from a veterinarian familiar with rats. Any signs of illness or injury, and treatment given, must be documented in the appropriate records.

**Euthanasia**

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

**Disposal**

A disposal plan needs to be considered before using an animal in any program.

**Suggested resources**

**Web sites**
Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 1 October 2008
www.adelaide.edu.au/ANZCCART

RSPCA, 2007, RSPCA.org, viewed 29 October 2008
www.rspca.org.au

Petalia, A world of Pet Care, 2000, Petalia™, viewed 29 October 2008
Approved activities: rats

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines.

A. Very low impact activities
- Observation of the normal behaviour of animals (Category 1)
  During observation, students need to be kept at a reasonable distance to avoid frightening the animals.

B. Low impact activities involving animals
- Breeding of mice or other appropriate animals in the classroom (Category 2)
  Rats must not be bred for the purpose of dissection.
  Prior to breeding, homes must be sourced for all offspring and adequate information provided to new owners about the care and use of the rats.
- Appropriate care of classroom pets (Category 2)
  A plan for the disposal of surplus animals must be in place prior to beginning this activity. If killing is the only disposal option, then a breeding program is not allowed. To ensure that breeding does not occur, the male and female should be separated prior to the female giving birth. Offspring should be separated into single sex groups at weaning.
- Capture, restraint and handling (Category 2)
  Students can catch, pick up and handle the rats during classroom activities and for maintenance. Prior training must be given to students in the appropriate methods of handling, as detailed in previous section. Only rats which are accustomed to being handled should be used.
  All handling should be gentle and unhurried. Nervous people should not attempt to handle rats. Sudden loud noises and jerky movements must be avoided at all times. Gloves are unnecessary and undesirable as they lead to clumsy handling.
  Always approach a rat from behind and grip it firmly with the thumb and forefinger, forming a circle round the neck. The head and one front paw should be included in this grip while the second front paw is held between the forefinger and the middle finger. Use the other hand to support the pelvis and tail from behind and hold the rear paws between the thumb and forefinger.
C. Non-invasive measurement

1. body weight *(Category 2)*
2. body condition *(Category 2)*
3. growth *(Category 2)*
4. body proportions *(Category 2)*

Students observe rats, noting details of their growth, weighing them and measuring body proportions. Prior training and experience in capture, restraint and handling must occur to ensure that the rats are restrained for the shortest possible period.

D. Measurement of mild dietary effects

4. palatability *(Category 3)*

For small animals such as mice and rats, the only dietary effect that should be investigated is the palatability of different foods. As rats are small in size, quantity or quality of the feed provided.

E. Rat Dissections

Rat dissections are discouraged. Permission must be obtained from the ACT Schools Animal Ethics Committee. Please refer to Appendix 4 of Part A of the Guidelines.
Sheep

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0008/48824/sheepwelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of animals should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools.

Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Activities involving large domestic and farm animals that might stand on, crush or otherwise cause physical injury to a person are classed as ‘high risk’ (level 3) activities in the Policy and Guidelines for Risk Management in ACT Government Secondary Science Programs 2001. High risk activities have the potential for risk of serious injury to students or others (e.g. an irreversible injury, permanent damage to health or a fatality).

Teachers/leaders are required to provide direct supervision (one to two students at any one time working with teacher guidance). Appropriate personal protective equipment must be used to minimise the risk of injury, and the activity is to be undertaken in a safe and defined area.

A risk assessment must be completed and documented by senior management prior to the commencement of high risk activities. In the event of a student accident, a copy of the risk assessment form and other relevant documents (e.g. student safety test, pre-activity teaching and learning, course documents) should be attached to the student accident report form and forwarded to workplace relations and Government Legal and Liaison section.
Varietal range difference

Breed commonly used in Australia can be divided into the following categories:

- Fine Wools including the Merino and Merino Comebacks
- Short Wools including the Dorset, Ryeland and Suffolk
- Long Wools including the Border Leicester and Lincoln
- Dual Purpose Breeds including the Corriedale, Gromark and Polwarth
- Carpet Wools including the Drysdale and Tukidale
- Woolless, e.g. the Wiltshire Horn which sheds its fleece.

It is recommended that schools that wish to maintain a sheep enterprise restrict their choice to plain-bodied sheep such as the dual purpose breeds and first cross ewes. They provide wool production but are less likely to get fly strike. This means there is a reduced need to carry out operations like mulesing.

Physical attributes

Size: At the shoulder,
- small framed fine wool Merinos: 60 cm
- medium framed strong wool Merinos and Suffolks: 75 cm
- large framed Border Leicester: 90–95 cm.

Weight: 35–90 kg
Age at adult size: approximately 2 years.
Weight at birth: Merinos 3.6–4.1 kg, others 4.1–5.1 kg. These are only average weights and final birth weight is dependent upon the age of the ewe, the feeding regime of the ewe, the breed and whether a single or multiple birth.

Gestation period: 150 days.
Number of offspring: Normally a single lamb, except for types specifically bred for reproductive performance such as the Booroola, Poll Dorset and Border Leicester/Merino cross where twins are more normal.

Range of breeding ages: Puberty varies from 8–12 months, with breeds such as the Border Leicester/Merino cross maturing earliest and having an extended breeding season. Most ewes are mated for the first time when they are 15–18 months of age.

Weaning age: 3–5 months
Healthy characteristics: Rectal temperature: 38.9ºC
Heart rate: 75/min
Respiration rate: 16/min

A separate budget allowance should be available to ensure livestock are adequately fed and cared for at all times.
Environment

The basic requirements for the welfare of sheep are:
• a level of nutrition adequate to sustain good health and vigour
• access to sufficient water of suitable quality to meet physiological needs
• social contact with other sheep and with sufficient space to stand, to lie down and stretch their limbs
• protection from predation
• protection from pain injury and disease
• protection from extremes of weather which may be life threatening
• provision of reasonable precautions against the effects of natural disasters, e.g. firebreaks, and fodder storage.
• handling facilities which under normal usage do not cause injury and which minimize stress to the sheep.

Space

Sheep perform well in an open pasture that has plenty of available water as well as shelter from wind, rain and sun. For information about stocking rates, refer to notes on food and water requirements.

If sheep are housed intensively, each pen should be designed to hold no more than three to four sheep and should provide an area of at least 1.5 square metres per sheep. Permission must be obtained from the SAEC to raise animals in intensive conditions.

Steps should be taken to ensure that, as far as practicable, animals can be attended to promptly in the event of fire, flood, injury or disease.

Fencing

All paddocks within a build up area must provide adequate protection from predators. Fences must be checked regularly for damage and all sharp edges that could cause damage to livestock should be removed.

Temperature

Newborn lambs and sheep off shears are particularly susceptible to cold, wet conditions. For sheep in pens, care needs to be taken that the slatted floors do not cause cold, draughty conditions.

Shelter

Shelter is essential to provide shade and protection from cold, windy and wet weather, particularly for newborn lambs and sheep off shears. Wind breaks or housing and shade should be available to ensure protection from inclement weather conditions.

Ventilation

Needs to be adequate in sheds to prevent them from becoming humid and damp and to prevent a build up of ammonia.

Cleaning

Pens should be cleaned daily.
If sheep are to be housed for lengthy periods, wooden slatted floors, with excellent sub-floor and room ventilation, are best. This ensures that wool damage (staining), fleece rot and fly strike are minimised and facilitates cleaning of pens. Sheds should have all sharp objects that could cause damage to livestock removed.

Feed bins should be off the ground and automatic waterers, which supply clean, fresh water at all times, must be installed and checked daily.

**Food and water requirements**

Sheep are most efficient, in terms of digestion, with good quality pasture comprising a balance of grasses and legumes. Care must be taken to, as far as possible, exclude sheep from toxic plants and other substances suspected of being detrimental to their health. E.g. when sheep are put on pastures with a high legume content, bloat can occur while pastures containing young phalaris plants (blue tinged in colour) are toxic to sheep. Fresh clean water that is readily accessible is also needed for efficient growth.

Remember, when feeding by hand, the rule is to introduce new food types slowly and carefully. Feed plenty of high quality roughage and feed small amounts at frequent intervals.

Do not feed excessive grains.

The carrying capacity of sheep on pasture is based on the average annual feed availability and is expressed in terms of Dry Sheep Equivalent/hectare (DSE rating). One DSE is the amount of feed required to maintain a 50 kg wether. A crossbred ewe with a five-week old lamb has a DSE rating of 2.9.

Monitoring of live weight and condition scoring will indicate the adequacy of the feed conditions.

**Type**

Young lambs: suckle on ewe or use milk replacer. Older sheep: grazing is the most economical method. Supplementary feeding with hay and concentrate mixes may be necessary. If the sheep are solely grazed, a local veterinarian should be consulted to determine if there is a need for specific supplementation.

**Quantity**

Varies with weight, stage of growth and stage of production.

**Regularity**

For hand feeding, provide twice daily for young lambs and daily for other sheep. Essential dietary needs (variations): Newborn lambs must get colostrum in the first 24 hours.

**Water**

A clean, fresh and reliable supply is necessary. Watering points should be of sufficient capacity and allow safe access. Above ground containers with automatic watering systems that use clean, fresh water are preferred. Water and watering systems should be checked daily. The moisture content of the available feed will determine the quantity of water required by the sheep.
Handling

All sheep should be checked daily for signs of ill health.

If handling is required, it is essential that they be handled calmly and gently to reduce stress to individual sheep and to other sheep nearby. The time of restraint should be minimized to the shortest time possible to ensure the successful completion of the activity.

A set of solid yards, preferably including a drafting race, increases the ease of handling sheep. All sharp objects that could cause damage to livestock should be removed.

Sheep kept in schools learn routines quickly and respond to food incentives. When new sheep yards are to be constructed or existing yards modified, expert advice should be sought.

For specific handling techniques, see the Approved Activities section.

Normal behaviour

Sheep are gregarious animals, moving and responding as a group. This behaviour pattern significantly facilitates moving, working and identifying individual animals with problems.

For example, when ewes are about to lamb, they become extremely agitated and move away from the main body of the flock. The same may be true for initial signs of ill health or poor nutrition.

Disease prevention

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All action must be documented in the appropriate records.

Movement of sheep

There are a number of restrictions relating to the movement of sheep. To ensure that you abide by the appropriate legislation, contact TAMS and the Rural Lands Protection Board or NSW Agriculture.

Signs of illness

A sick sheep may display:
- disorientation
- lethargy
- changed feeding habits
- scouring
- nervousness
- discharging
- separation from or lagging behind the main body of the flock
• lameness
• ill-thrift or wasting
• abnormal gait or a reluctance to rise.

A failure to thrive or grow is another sign of illness. Common ailments that may occur include mastitis, bloat, internal parasites, footrot and flystrike.

If unable to identify and correct the cause of ill health, assistance should be sought from a veterinarian who is familiar with sheep.

Any signs of illness or injury, and treatment given, must be documented in the appropriate records.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a local veterinarian.

Disposal

Sheep can be sold privately, at auction or consigned to an abattoir. Consideration to emotional affect of the method of disposal on students must be taken into consideration and students should be prepared well in advance of the disposal of animals.

Carcasses must be disposed of in accordance with local council regulations.

Suggested resources

Web sites
Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 29 October 2008
www.adelaide.edu.au/ANZCCART

Breeds of livestock, 2008, Oklahoma State University Board of Regents, viewed 29 October 2008
www.ansi.okstate.edu/breeds/


RSPCA, 2007, RSPCA.org, viewed 29 October 2008
www.rspca.org.au
Approved activities: sheep

Please note:
The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

B. Low impact activities

• Capture, restraint and handling (Category 2)
A set of sheep yards with a race can be very useful for handling sheep.

There are excellent portable yards that are suitable for use in schools. Many activities can be easily carried out while the sheep are standing in a race.
Alternatively, individual sheep can be caught and restrained. To do this, a sheep can be thrown, so that it sits on its rump. This position immobilises the sheep and allows husbandry activities to be carried out.

To prevent the handler being kicked in the face by the sheep’s hind legs, ensure that the sheep’s head does not slip between the handler’s legs. The sheep’s head should lean to one side and be held down against the flank of the sheep. Normally, one of the sheep’s legs is placed behind the handler’s leg, giving the handler maximum control of the animal.

C. Non-invasive measurement

1. **body weight** (*Category 2*)
The easiest and most appropriate method to determine body weight is by using a set of portable sheep scales that can be fitted into a race.

This allows the animal to be restrained and weighed without undue stress or handling. Bathroom scales can be used for lambs. The lambs are carried onto the scales and the holder’s weight is subtracted.

2. **body condition by visual assessment or condition scoring** (*Category 2*)
The body condition can be assessed when sheep are standing in a race. NSW Agriculture Agfacts describes the best method of condition scoring.

3. **growth** (*Category 2*)
Wool growth is directly linked to feed availability and breeding. The recording of wool growth will give accurate perceptions of the effects of nutrition and breeding without causing undue stress to the animal. There is a very simple and effective method of recording wool growth. Wool growth can be ascertained by marking, with silver nitrate, the base of a small section of wool staple in the loin region of the fleece. The silver nitrate places a permanent brown line on the fleece. When the fleece is removed at shearing, growth rates can be recorded by comparing the length of the wool from shorn end to brown line compared against time. This is an easy and safe experiment both for the sheep and the students. Stained wool should be removed from the clip before sale.

**Note:** Silver Nitrate is suitable for use by year 11 and 12 students and staff only.

4. **body proportions** (*Category 2*)
As animals grow, the change in body proportions is best recorded through photographs as this means little handling of stock and gives permanent and accurate records of developmental changes. It is useful to stand the sheep against a background grid.

5. **pulse or blood flow** (*Category 2*)
The pulse can be recorded by feeling the carotid artery at the base of the jaw or the femoral artery, inside the hind leg, where there is little fleece.

6. **respiration** (*Category 2*)
8. **age by dentition** *(Category 2)*
To age a sheep by its dentition, check the number of teeth in its mouth. The sheep can be restrained by putting it in a race or resting it on its rump.

- Birth to 12 months, lamb’s teeth
- 12–19 months, two-tooth
- 18–24 months, four-tooth
- 23–36 months, six-tooth
- 28–48 months, eight-tooth
- Old sheep, broken mouth

9. **scrotum and testicles (palpation)** *(Category 2)*
The sheep is held in a standing position. The handler places a hand on each side of the base of the scrotum and feels for the spermatic chords between thumb and fingers, gradually moving down to the epididymis.

Abnormalities such as hardness and swelling can be felt without too much pressure. Comparisons between the testes can be made simultaneously by using a hand on each side.

**D. Measurement of mild dietary effects**

1. **high/normal protein** *(Category 3)*
2. **high/normal energy** *(Category 3)*
3. **high/normal fat** *(Category 3)*
4. **palatability** *(Category 3)*

It is recommended that dietary observation be restricted to physiological effects on wool growth as these provide accurate results without causing stress to the animal.

Restriction of food quantity is not acceptable.

**E. Behaviour activities**

2. **taming and gentling** *(Category 3)*
3. **training for competition or showing** *(Category 3)*

Lambs can be quietened at an early age and should be handled as much as possible. Initially, they can be trained to the halter by tying them up to a solid object. Gradually, lambs will get used to the halter and will walk on the lead.

Sheep should become accustomed to being handled all over and, for rams, this includes touching the scrotum.

During a show, the handler walks on the left side of the animal. When the handler is seated, the animal should face the handler and have its head at about knee height. The animal should stand with its head high and feet evenly spaced so that it is shown to its optimum. To prevent injury from the horns, horned sheep, especially rams, need to be held by the head.
For short wool breeds, trimming or clipping should commence at least a month before judging day. It should be done four or five times before a show. The sheep should be secured by its headstall to a rail and, ideally, raised on a table. Remove any burrs from the wool. Dampen an area, e.g. a hindquarter, with a spray bottle of water and break up the fibre with a stiff brush or carding comb. Use hand shears to trim the fibre back to a solid base. Use the bottom blade of the shears as a gauge for depth. Card up several times and clip to achieve a smooth finish. Clip the wool from the scrotum. Trim the tail to fit into the hindquarter to give a meaty appearance.

For long wool breeds, rug the sheep during the winter months with either a hessian or canvas rug. Just prior to a show, open up the wool and trim off any straggly or fluffy pieces with a pair of shears.

F. Collection of samples from livestock

1. wool (Category 2)
   This is easily achieved at shearing by using sharp hand shears or curved scissors to remove the wool required. The animal should be adequately restrained.

3. faeces and urine (non-invasive) (Category 2)
   When collecting urine, the most efficient method is by restraining the animal over a collection tray, which gathers all, passed urine. Remember to treat all urine as though it contains hazardous diseases. Store the urine in sealed containers, handle with surgical gloves and ensure that all collection areas are kept clean.

Faeces can be collected from the ground after the animal has defecated. Sheep can be temporarily restrained in a pen or corner of the paddock. Students should wear gloves and follow proper hygiene procedures.

5. saliva (Category 3)
   Feeding roughage to sheep just before collection facilitates the collection of saliva. Roughage stimulates excess saliva-production so collection from the mouth, using a syringe-operated suction tube, becomes an easy process.

4. faeces (invasive) (Category 5)

6. ruminal fluid (Category 5)

7. blood (Category 5)

G. Standard husbandry activities

1. administering treatments

   topical
   • backline (Category 3)
   • spray (Category 3)
   • dip (Category 3)

   Dips and sprays should be constructed, maintained and operated in a manner that minimises injury, disease and stress to sheep. Backline administration of treatments is the most suitable for school situations.
oral
• drench (Category 3)

injection
• subcutaneous (Category 3)
• intramuscular (Category 3)

It is important to maintain a program of vaccination and control of parasites for all sheep.

When treating for internal and external parasites, all animals should be treated at the same time and pastures should be rotated in conjunction with the drench program. These activities need to be documented in the appropriate records.

When using vaccines, drenches or any other animal care chemicals, care must be taken and noted about the following:
• reading all labels
• maintaining appropriate storageadhering to withholding periods
• determining the weight of animals
• determining the correct dose rate
• using protective clothing if required.

When vaccinating, ensure that the animal is adequately restrained and the needles are sharp and sterile.

Subcutaneous injections are most commonly used and involve injecting the vaccine just under the skin. The recommended site for vaccination is in the loose skin folds at the base of the ear.

For scabby mouth, the skin is scratched with a special applicator. Please note that scabby mouth vaccine is a live vaccine and is infectious to humans.

Care must be taken to avoid accidental self-inoculation. If this occurs, medical assistance must be sought immediately.

When treating for internal and external parasites, all animals should be treated at the same time and pastures should be rotated in conjunction with the drench program.

Treatment for external parasites is now commonly carried out using pour-on or backline chemicals. As these chemicals are safer for the operator and for those watching the procedure, they are suitable for use in schools.

• intrauterine pessaries (Category 4)

The introduction of Controlled Intravaginal Releasing Device (CIRD) is classified as administering an intrauterine pessary. Ensure equipment is cleaned after each application.

Carefully introduce the loaded applicator to the sheep’s vagina and, when the applicator is in position, discharge the CIRD.
4. **ear marking** *(Category 3)*

Ear marking with a registered mark for identification is required by legislation. Schools should contact their local veterinarian for advice. See also lamb marking below.

When it is necessary to mark sheep for permanent identification, the ear may be tattooed, tagged, notched or hole-punched. Electronic methods may also be acceptable.

Ear tagging can cause some tearing of the ears if not conducted properly; careful technique will avoid this.

Ear marking instruments should be sharp, with the cutting edges undamaged, so as to prevent tearing of the ear.

6. **hoof paring** *(Category 3)*

This operation removes overgrown hoof material and, in conjunction with sound management practices, keeps the hoof clean, hard and prevents diseases like abscesses. To avoid taking off too much hoof and causing bleeding or damage, the horn of the hoof should be cut back in several stages. Students should receive prior instruction on hoof structure to help to avoid cutting into sensitive tissue. Control or eradication procedures should be adopted if evidence of foot rot occurs.

8. **shearing** *(Category 3)*

Shearing is the removal of wool from the sheep using an electric handpiece. Students should be familiar with the electric handpiece prior to shearing and be supervised by an experienced person. The tally high method of shearing is recommended. Note: shearing is stressful to the animal, especially if cut.

11. **crutching** *(Category 4)*

Crutching is the removal of wool from the breech area of the sheep using hand shears.

25. **castration** *(Category 4)*

Castration can be achieved by placing an elastrator ring at the neck of the scrotum, by removing using a knife or by using a specially designed, heated knife that seals the wound. Castration is carried out before 12 weeks of age.

26. **tail docking** *(Category 4)*

Tail docking is carried out to stop soiling of the breech area and to help prevent fly strike. The tail should be removed at the third tail joint. See NSW Agriculture Agfacts for detailed information. Leaving the tail this length protects the vulva from the sun and flies.

Castration, tail docking and ear marking are usually carried out together and are collectively known as lamb marking.

When carrying out several operations on the one animal at the one time, such as lamb marking, plan the operations so that the operation causing most stress is performed last.

These operations should be carried out by a skilled person only, and preferably using a lamb marking cradle to adequately restrain the lamb. Marking is best carried out...
before the lambs are 4-6 weeks of age. Animals over six months of age require an anesthetic. In the interests of animal welfare and to prevent soiling of the breech area, all lambs that are to be kept until weaning age should be marked. All male lambs, other than those kept for breeding purposes, must be castrated before six weeks of age as part of normal husbandry practice.

Entire ram lambs will cause problems with management and will tend to fight as they reach puberty.

40. *mulesing, teeth grinding or trimming, pizzle dropping* (*Category 5*)
For further information about specialised animal husbandry techniques, refer to the ACT Code of practice for the welfare of animals – sheep.
Turkeys

This species specific guideline is a guide only and was accurate at the time of publication. Staff responsible for animals in schools should refer to the ACT Codes of practice for the welfare of animals to ensure that current ACT legislation is followed.

The relevant code of practice was viewed on 4 March 09 at: http://www.tams.act.gov.au/__data/assets/pdf_file/0013/13360/domesticpoultrywelfare-codeofpractice.pdf

The importance of good stockmanship in animal welfare cannot be over-emphasised. Persons responsible for the care of poultry should be well trained, experienced and dedicated. Staff should be encouraged to undertake appropriate training in animal management and husbandry appropriate to the species being kept in schools. Knowledge of the normal appearance and behaviour of their animals is essential for them to be treated effectively and efficiently and with consideration.

Physical attributes

Size: to one metre tall
Weight: male 8–15 kg
female 4–8 kg
Weight at birth: 40–60 gm
Incubation period: 28 days
Sexual maturity: well grown, seven-months old pullets
Healthy characteristics: body temperature: 40–42°C
heart rate: 180–340 beats per minute

Environment

The basic needs of poultry are:
• readily accessible food and water to maintain health and vigour
• freedom to move, stand, turn around, stretch, sit and lie down
• visual contact with other members of the species
• accommodation which provides protection from the weather and which neither harms nor causes distress
• prevention of disease, injury and vice, and their rapid treatment should they occur.
Space
Stocking density should be reviewed periodically and adjusted as necessary for age, breed, strain and type of turkey, colony size, temperature, ventilation, lighting, quality of housing and occurrence of disease and cannibalism.

Floor space under a hover brooder should be at least 90 cm² for each poult. For birds up to six weeks of age, provide at least 900 cm² a poult. From eight weeks of age, the minimum extensive space required for rearing is 2.5 kg/m². Grassed runs should have at least 15 m² of pasture per bird. Rotate pastures between batches. Provide a shed with 1.2 m² of roof per bird and allow 25 cm of roost space per bird.

Steps should be taken to ensure that, as far as practicable, birds can be attended to promptly in the event of fire, flood, injury or disease.

Every reasonable effort must be taken to provide protection from predators. This includes adequate fencing that is fox and dog proof. This may require cementing around the base of the shed and poultry runs. Buildings should be constructed and maintained to restrict the entry of wild birds, rodents and predators that are capable of causing disease and/or distress.

The floor should have a solid base.

Movement and exercise
Turkeys appreciate a ranging situation but can be successfully raised in more intensive situations. Model Code of Practice for the Welfare of Animals: Domestic Poultry (4th edition) provides further advice on the space allowances for turkeys.

Temperature
For day-old poults under a brooder, measured 8 cm above the ground at the rim of the brooder, the temperature, taken with a black bulb thermometer, should be 37°C. Every three days, lower the temperature 1° to 2°C to reach 21°C when the poults are four to six weeks of age. A general shed temperature of 21°C should be maintained. Poults in brooders should be checked at least twice in every 24 hour period.

The poults are the best indicators of temperature. When it is too hot, they will disperse and they will huddle if it is too cold. When poults are weaned, the preferred temperature range is 20–28°C. Temperatures below 10°C and above 32°C cause stress.

Adequate precautions should be taken to minimise stress produced by temperatures high enough to cause prolonged panting, particularly when accompanied by high humidity. In hot weather provision of adequate cool water and ventilation is essential and birds must have access to shade. Under adverse weather conditions birds must be monitored more frequently.

Light
Shedded birds must have reasonable light and not be kept in dark. The birds should experience a light and dark cycle.

Ventilation
Avoid draughts and chilling winds. Ventilation is required to prevent ammonia build-up in intensive situations. Ammonia causes as much distress to poultry as it does to humans. To prevent ammonia building up to the level where it becomes
unpleasant, reduce the number of birds in a given area, clean out the litter and improve ventilation. Ventilation facilitites and equipment should aim to maintain shed relative humidity below 80% especially at temperatures above 30°C. Refer to the Code of Practice for the Welfare of Animals – Domestic Poultry 4th Edition for further information about acceptable gas levels.

**Shelter**
Sufficient shelter is required to protect birds from extremes of climate such as temperature changes, wind, rain and direct sunlight. Sheds should provide a solid floor for breeding birds that is covered with a litter material that is absorbent and protects the birds from damage. Sheds must have adequate space, ventilation and be cleaned regularly to avoid a build up of ammonia.

**Bedding**
Use clean, dry litter of rice hulls, shavings from untreated timber, straw or sand.

**Cleaning**
Little cleaning is required if the litter is deep and kept dry. Make sure that equipment, such as nest boxes, is hygienic so that the disease risk is minimised.

**Nesting**
Suitable nesting material such as clean, dry sand, rice hulls, straw or untreated wood shavings should be provided. A nesting box should have a minimum size of 1900 cm² and accommodate up to 5 breeding females. The nest should be reasonably dark and of sufficient size to isolate one bird from another, so that egg damage and aggressive behaviour from some birds during nesting time are avoided.

**Food and water requirements**

**Type**
Commercially prepared turkey crumbles for poults, growers and adults. Automatic feeders should be checked daily to they are operating correctly. Birds should be provided with food once in every 24 hour period.

**Quantity**
Ranges from a few grams per day for poults to up to 250 grams per day for adults.

**Regularity**
Ad lib preferred, at least twice per day, in the morning and evening.

**Essential dietary needs (variations)**
28% protein ration for the first four weeks, 24% for the next four weeks and then reduced to 20% until grown. When the birds are young, use medicated rations to counter blackhead disease.

**Water**
Must be cool, clean and fresh and in sufficient quantity at all times. Automatic water feeders are recommended. The water supply must be checked daily to ensure that automatic systems are working and that the water is clean. Turkeys should never be deprived of water for more than 24 hours. Any new water supply should is obtained, the water should be tested for salt content and microbiological contamination and
advice obtained on its suitability for poultry. A minimum of one days calculated
water requirements should be available in storage or auxiliary supply in case of
breaks, repairs of failure of equipment. Each bird must have access to at least two
independent drinking points. Manufacturers recommendations are a good guide to
the number of outlets per bird.

Light
Young birds reared away from the hen require a light intensity of abut 20 lux on the
food and water for the first three day after hatching in order to learn to find food and
water. Turkeys in ACT schools should have access to natural light and normal day
light periods.

Handling
Turkeys need to be handled calmly and with care to prevent distress and injury to the
animals. Avoid chasing, which agitates the turkeys, and causes them to pile up in
corners.

For specific handling techniques, see the Approved Activities.

Normal behaviour
Turkeys are alert and active with an erect carriage. They cannot fly far and often
scratch and peck as they investigate the surroundings. Turkeys may rush at objects
and, if injured, may become cannibalistic.

Signs of illness
- diarrhea
- nasal discharge
- sneezing
- nervous signs or paralysis
- inactivity, head under wing, feathers ruffled or isolated from group
- a pale or purple comb
- frequent shutting of eyes
- little response when touched or pushed, or often pecked at by others.
- reduced water intake or production
- abnormal condition of their droppings or other physical features

A failure to thrive or grow is another sign of illness. If the cause of ill-health is unable
to be identified and corrected, assistance should be sought from a veterinarian
familiar with turkeys.

Any signs of illness or injury, and treatment given, should be documented in the
appropriate records.
Disease prevention

Turkeys should be checked once in every 24 hour period and more frequently during hot weather or outbreaks of disease or cannibalism.

Disease control methods and internal and external parasite control programs should be developed in consultation with a veterinarian. All activities must be documented in the appropriate records. This includes records of morbidities, mortalities, treatment given and response to treatment. This information will assist disease investigations.

To prevent or reduce behavioural or other problems, schools should consider selection of the most appropriate bird strain and the method of rearing used to suit the type of housing available and management practices employed.

Should an outbreak of feather picking or cannibalism occur, or an outbreak appear imminent, environmental factors that may aggravate it should be examined and if appropriate, adjustments made, such as reducing the stocking density, light intensity, temperature, humidity or disturbances to the pecking order, removing injured birds, removing birds observed to be instigating pecking, or eliminating shafts of bright sunlight. If these measures fail to control the problem then appropriate beak trimming of the birds should be considered in consultation with an expert in animal welfare to prevent further injury or mortality in the flock.

Euthanasia

In the case of an animal becoming so sick, diseased or injured that recovery is unlikely or undesirable on humane grounds, then euthanasia must be arranged with a competent person. In emergency cases, a person, competent in the technique, may use a sticking knife that is stuck through the roof of the turkey’s mouth and into the brain.

Disposal

Turkeys can be sold privately, at auction or consigned to an abattoir.

Carcases must be disposed of promptly and in accordance with local council regulations.

Suggested resources

Websites

Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), 2008, ANZCCART viewed 29 October 2008
www.adelaide.edu.au/ANZCCART

Breeds of livestock, 2008, Oklahoma State University Board of Regents, viewed 29 October 2008
www.ansi.okstate.edu/breeds/

www.publish.csiro.au/index.cfm


RSPCA, 2007, RSPCA.org, viewed 29 October 2008 
www.rspca.org.au

**Printed texts**

NSW Dept of Agriculture and Fisheries, *Agfacts: Raising Turkeys*, Australia.


**Contacts**

The Animal Welfare Authority 
Department of Territory and Municipal Services (TAMS) 
PO Box 249 
CIVIC SQUARE ACT 2608

Local council

Local farm supplies trader

**Approved activities: turkeys**

**Please note:**

The categories of activities are explained in Table 2, on page 12, in Part A of these guidelines. The letters and numbers used in approved activities correspond to those detailed in Table 3, Description of Activities, on pages 11–16 of Part A of these guidelines. Category 4 and 5 activities may be undertaken by students only if prior written approval from the ACT SAEC has been obtained by applying on form D, on page 54, in Part A of these guidelines. Before demonstrating to students a category 5 activity, the teacher must have written certification from the ACT SAEC. A three-yearly certification should be requested by completing form E, on page 59, in Part A of these guidelines.

**A. Very low impact activity**

- Observation of normal behaviour of birds (*Category 1*)

Be patient as birds do not like loud noises or sudden movements. Students can observe one bird for individual behaviour and two birds, a male and a female, for breeding behaviour.
B. Low impact activity

• Capture, restraint and handling (Category 2)

Birds should be captured and handled only when necessary. Use birds that have become accustomed to handling from a young age. Avoid chasing birds as this agitates them and causes them to pile up in corners. If a catching hook is used, a bird should be drawn towards the handler firmly but not so quickly as to damage shank, leg or joints. Firmly and quietly transfer the bird to the holding position. The holding position involves restraining one hock joint between the index finger and thumb, and the other hock joint between the third and fourth fingers. The bird’s breast, or keel bone, sits comfortably on the palm of hand with the bird’s head pointing towards the handler’s body and the vent away.

When walking with a bird, its head can be tucked under the carrier’s upper arm. The non-holding arm can be used to assist with restraining the bird and prevent the wings from flapping.

C. Non-invasive measurement

1. Body weight (Category 2)

Only use birds which are accustomed to being handled. Young birds can be weighed directly on a triple beam balance. Older birds may need to be restrained in a light cardboard box.

For growers and adults, a spring balance with a suitable scale is required for weighing. A small, looped piece of rope can be attached to the shank of both legs of the bird and connected to the balance. Ensure that the bird’s head is kept down to avoid flapping. The reading should be taken as quickly as possible so that the bird can be returned to a normal position.

3. Growth (Category 2)

Growth is usually measured by body weight changes. Growth can be shown by photographing or drawing a bird against an appropriate background grid or scale.

Use a sufficient number of birds to determine individual differences. Videotaped records can also show a bird’s growth.

4. Body proportions (Category 2)

Two handlers are required for this activity. One person needs to adequately restrain the bird while the other person measures. Do not distort a bird excessively to make measurements of body parts.

5. Pulse or blood flow (Category 2)

For this activity, restrain a bird as previously described. As birds have a very high pulse rate, it is difficult to measure. A stethoscope is required.

6. Respiration (Category 2)

Observe birds in warmer weather as indications of respiration are more obvious. Observe and record a bird with its beak naturally open and the tongue moving. The number of tongue movements can be recorded.
7. **temperature** *(Category 2)*  
Restrain a bird by the hand and arm method. A clinical thermometer is inserted into the vent or cloaca. Slide the thermometer in carefully and wash it between birds. Warm the thermometer in cold weather.

D. **Measurement of mild dietary effects**
1. high/normal protein *(Category 3)*
2. high/normal energy *(Category 3)*
3. high/normal fat *(Category 3)*

A variation in diet can be achieved by using commercially prepared foods which use a different formula than the usual one provided. Any variation in the diet should be an enhancement to, rather than deprivation of, the diet.

The minimum level of protein, energy or fat selected for the trial must be the minimum acceptable for the life stage of the particular bird type. The trial period should not be longer than is necessary to achieve a clearly observable result. Ten to fourteen days is sufficient for young birds, after which the birds should be returned to their normal diet.

Where comparative food trials are being undertaken, no less than the minimum protein levels should be fed to birds. The maximum amount of protein permitted is 20% above the minimum levels.

Schools should not keep broilers for more than 10 weeks. After this period, the likelihood of stress fractures and broken legs becomes a distinct possibility.

4. **palatability** *(Category 3)*

For adult birds, use a variety of commercially prepared layer pellets and mash, ensuring a plentiful supply of clean fresh water. Observe two adult birds in separate pens.

E. **Behaviour activities**
3. training poultry for showing *(Category 3)*

Use an adequately sized training pen, housed in a shed or very well shaded area. Refer to the ACT Code of Practice for the Welfare of Animals Domestic Poultry 4th Edition to check for approved pen sizes. Provide clean, dry floor litter and ad lib feed and water. Treat birds to minimise external parasites.

Cover the pen with a hessian bag to lower the light level. Ensure quiet, steady movements near, and around, training pens. Use hands to stroke and handle the bird. If it becomes agitated, cease handling.

If a bird is to be removed from the pen, move it in and out head first.
F. Collection of samples

3. faeces (non-invasive) (Category 3)
Place the bird in wire-floored pen, elevated off the ground, so that faeces can be collected. Do not force faeces from a bird.

7. blood (Category 5)

G. Standard husbandry activities

1. administering treatments

topical
• dip (Category 3)

oral
• drench (Category 3)

injection
• subcutaneous (Category 3)

It is important to maintain a program of vaccination and control of parasites for all birds. When treating for internal and external parasites, all birds should be treated at the same time. These activities need to be documented in the appropriate records.

When using vaccines, drenches, external parasite control chemicals or any other animal care chemicals, care must be taken and noted about the following:
• reading all labels
• maintaining appropriate storage
• adhering to withholding periods
• determining the weight of animals
• determining the correct dose rate
• using protective clothing if required.

Oral medications to be administered include worming compounds and vitamin and mineral supplements.

They may be administered in the feed or water depending on instructions. If water-based treatments are to be used, water is generally withdrawn from birds overnight to increase their thirst.

Avoid water withdrawal during the day, particularly in hot weather.

Drink containers need to be suitably anchored to prevent tipping.

29. beak trimming (Category 4)

Every effort should be made to avoid beak trimming by the appropriate selection of birds and the provision of conditions which reduce the tendency for adverse traits, such as cannibalism, to occur.

Beak trimming is done when the top beak tip becomes excessively long.
The top beak is cut back to the point where the beak changes colour, ensuring the lower beak tucks under the top beak. Beak trimming must be performed only by an accredited operator or under the direct supervision of an accredited trainer as part of an accreditation training program and must be performed only in accordance with agreed accreditation standards.

31. artificial insemination (Category 5)

32. semen collection (Category 5)

41. slaughter of livestock (Category 5)