Introduction

Educational institutions, including schools and agricultural colleges, should be aware of and comply with South African requirements for the care and use of animals for scientific purposes, including for education, teaching, training and research. Requirements extend to the review and approval of animal care and use by Animal Ethics Committees (AECs); the housing, husbandry, care and standards of facilities or areas where animals are kept; oversight of animal welfare; and the competence of the persons who are involved.

Scientific purposes include imparting or demonstrating knowledge or techniques to achieve an educational outcome, as may be specified in the relevant curriculum or competency requirement. These guidelines apply to all primary and secondary educational institutions, and to all schools including agricultural schools.

It is expected that all animals used in educational activities will receive a high standard of care, that their wellbeing will be supported and safeguarded in accordance with the governing principles outlined in these guidelines, that their use will occur only in accordance with approval from an Animal Ethics Committee, and that the care, health and welfare of the animals will be guided under appropriate veterinary supervision.

Background

The South African National Standard (SANS) for the Care and Use of Animals for Scientific Purposes (SANS 10386:2008) [1], produced by the South African Bureau of Standards, prescribe minimum uniform national standards for the care and use of animals for scientific purposes, including for use in teaching, education, training, research and testing. The purpose of the SANS is to ensure the ethical and humane care and use of all animals involved in teaching or scientific activities in South Africa. The SANS explicitly covers all live non-human vertebrates and higher invertebrates (e.g. cephalopods and decapods), including their eggs and fetuses, and makes provision for the ethical consideration of all invertebrates, e.g. insects.

The SANS 10386 defines the responsibilities of institutions (including schools), teachers, students and researchers who use animals; requires that the use of animals is always appropriately justified by the formal review and approval of all teaching and scientific activities by Animal Ethics Committees that are appropriately constituted; and to ensure that animal welfare is always appropriately considered [1]. The SANS requires adherence to the ethical framework of the Three Rs (3Rs), i.e. the Replacement of animals by non-animal models whenever possible; the Reduction of the number of animals to the minimum required to yield valid results; and the Refinement of animal care standards and procedures in order to limit the potential for pain, suffering, distress or lasting harm to animals, thus improving animal wellbeing [2].

The competence of persons who work with animals that are used for scientific purposes, including for teaching, education, research and testing, is regulated by the South African Veterinary Council (SAVC) [3]. The Veterinary and Para-Veterinary Professions Act (Act 19 of 1982) [4] provides for the authorisation of persons (without prescribed qualifications) to render services or functions pertaining to the professions of veterinary or para-veterinary professionals, subject to such conditions as the SAVC may determine from
time to time and in each individual case. Authorisation granted in terms of section 23(1)(c) of Act 19 of 1982 may be granted on application where a need for such authorisation is motivated and the competence of the person(s), including qualifications, expertise and skills have been formally confirmed.

The SAVC may thus legally authorize persons to be involved in the care and use of animals for scientific purposes, including persons who use animals for teaching, education, training, research or testing; persons who take care of, handle or restrain, perform procedures on or kill animals; persons who design studies or teaching activities on animals; and persons who perform other functions of veterinary or para-veterinary professionals as per the Veterinary and Para-Veterinary Professions Act [4] and Rules made thereunder [5-9]. Such authorization of persons requires, *inter alia*, a veterinarian to confirm the competence of the person(s) in all procedures and functions and for an Animal Ethics Committee to confirm that animal care and use has been approved. Once authorised, the person works under the supervision of a veterinary or para-veterinary professional, with proficiency being reassessed periodically to maintain competence.

Minimum standards for facilities, rooms and areas where animals are kept, bred or used for scientific purposes, including for teaching, observation or research, are defined in *Rule 32 for Veterinary Professions* [9]. Such facilities must be registered with the SAVC and meet minimum standards for animal husbandry, welfare, oversight by an Animal Ethics Committee and veterinary supervision of animal health and welfare.

**Governing Principles**

All persons involved in the care and use of animals must consider the following governing principles:

(i) Respect for animals as sentient beings must underpin all decisions and actions involving animals

(ii) Adherence to the ethical framework of the 3Rs, i.e. the *Replacement* of animals by non-animal models when possible; the *Reduction* of the number of animals used to the minimum required to yield valid results; and the *Refinement* of animal care and procedures in order to limit the potential for discomfort, pain, suffering, distress or lasting harm to animals, thus improving animal wellbeing

(iii) The obligation to respect animals and the responsibilities associated with this, apply throughout the animal’s lifetime, including acquisition, transport, breeding, housing, husbandry, use in a project or education, and provisions for the animal on completion of their use, including euthanasia

(iv) People involved in any aspect of the care and use of animals for scientific purposes must be aware of and accept their responsibilities, and act in accordance with the requirements of SANS 10386

(v) All animal care and use activities must be subject to ethical review, approval and monitoring by an AEC; may commence only after AEC approval has been granted; be conducted in accordance with the AEC approval; and cease immediately if approval from the AEC is suspended or withdrawn.

**Responsibilities of Institutions and their AECs**

The responsibilities of institutions and their AECs involved in the care and use of animals for education, teaching and training activities are specified in SANS 10386. Institutions must ensure that animals are only used for teaching when their use is essential to achieve an educational outcome in science, as specified in
the relevant curriculum or competency requirements, and when suitable alternatives to replace the use of animals to achieve the educational outcome are not available.

Institutions must identify the person with ultimate responsibility for the care and use of animals in teaching and other scientific activities. This person does not relieve the individual responsibility of the teacher who is involved in the care and use of animals in teaching activities. This person must:

(i) ensure that all people involved in the care and use of animals understand and accept their role and responsibilities

(ii) ensure that adequate procedures and sufficient resources are in place so that all people involved in the care and use of animals can meet their responsibilities

(iii) be competent with respect to the wellbeing of animals under their care.

Institutions involved in the care and use of animals for teaching and other scientific activities in the primary and secondary sectors, must ensure that they have access to an AEC that fully meets the requirements of AECs as defined in SANS 10386. This may be an institutional, regional or national AEC.

Institutions must ensure that students have the opportunity to discuss the ethical, moral and social issues, and legal responsibilities, involved in the care and use of animals for scientific purposes, at a level appropriate to their learning ability and comprehension, before the care or use of animals commences.

Institutions must ensure that the parent or legal guardian of a child must provide informed consent for the involvement of the child in any activity that uses animals, if the animals could be exposed to pain, suffering, distress or lasting harm. Such informed consent must be compliant with any legal requirements.

Institutions must ensure, via their AECs, that all persons involved in the care and use of animals are fully competent. This will require written confirmation of practical competence by a veterinarian, based on direct observation, in cases of any clinical, invasive or surgical procedures; in cases where animals may be exposed to pain, suffering, distress or lasting harm; and in all cases of euthanasia of animals.

**Limitations to Use of Animals**

Institutions must ensure that the following activities using animals are not demonstrated to, or carried out by, primary or secondary level students, since these procedures may be emotionally distressing to people or to the animals used, or could result in the unnecessary use of animals. If any of the following procedures are undertaken, it should be based on a full research protocol approval by a registered AEC, and make use of fully qualified, SAVC-registered or SAVC-authorised personnel working within a SAVC-registered facility:

(i) exposure to any conditions that could cause an animal pain, suffering, distress or lasting harm
(ii) withholding of environmental enrichment, social deprivation or unnecessary solitary housing
(iii) animal breeding that fails to provide for the lifetime welfare of animals and/or their offspring
(iv) animal breeding that does not achieve an essential educational outcome in science
(v) clinical, invasive, surgical or any other potentially harmful procedures
(vi) induction of any infectious disease or any illness
(vii) production of any nutritional or other deficiency
(viii) exposure to any toxins, ionising radiation, biohazards or potentially harmful agents
(ix) administration of drugs or chemicals, unless for therapy or diagnosis as advised by a veterinarian

Institutions must ensure that the killing of animals is not demonstrated to, or carried out by, any primary or secondary level students unless it is required:
(i) to achieve a clearly defined educational outcome in science as specified in the relevant, formally approved curriculum or competency requirement, and approved by an AEC; or
(ii) as part of the veterinary clinical management of an animal, under the direction of a veterinarian.

In cases where any of the above activities will be demonstrated to, or performed by students, additional requirements must be met, as specified under “Authorisation by the SAVC”, later in this document.

Responsibilities of Teachers as Investigators and Animal Caretakers

When teachers use animals for teaching activities, the teacher has the responsibilities of an investigator as defined in the SANS 10386.

When teachers are responsible for the care of animals that are used for teaching activities, including during their acquisition, transport, breeding, housing and husbandry, the teacher has the responsibilities of an animal caretaker as defined in the SANS 10386.

Teachers have personal responsibility for all matters that relate to the wellbeing of animals that they use, including their housing, husbandry and care. This responsibility extends throughout the period of use approved by the AEC until provisions are made for the animal at the conclusion of their use.

Teachers must ensure that students have the opportunity to discuss the ethical, moral and social issues, and legal responsibilities, involved in the care and use of animals for scientific purposes, at a level appropriate to their learning ability and comprehension, and before the use of animals commences.

Teachers must ensure that students are adequately supervised by a person who is competent in the procedure being performed and that the level of supervision of students takes into account the competency and responsibilities of each student as well as the number of students and number of animals involved.

Teachers must ensure that animals are not released to students, or any other person, for temporary care, or at the completion of the use of the animal, unless:
(i) the AEC has approved such release
(ii) safeguards are in place and approved by the AEC to ensure the ongoing wellbeing of the animal. In the case of primary and secondary level students, safeguards must include a written commitment from a parent or guardian for the provision of adequate, ongoing and responsible care of the animal, and demonstrating awareness of relevant legislative requirements regarding the animal being rehomed or under their care
(iii) transport of animals between sites is in accordance with the SANS 10386
Obtaining Approval from an Animal Ethics Committee

Teachers, and the person with ultimate responsibility for a teaching activity, must follow institutional and AEC procedures when submitting a written application to an AEC and provide the required information. The AEC may be a regional, provincial or national AEC, and must be compliant with the composition and functioning of AECs as specified in SANS 10386. All AECs must include a veterinarian as well as a representative from an animal welfare organisation.

Authorisation by the SAVC

If any of the activities described under the section “Limitations to Use of Animals” earlier, are demonstrated to, or carried out by, primary or secondary level students the following will be required:

The conditions for authorisation of persons involved in the care and use of animals for scientific purposes at schools, including for education, teaching, training and research, are defined as follows:

1. The parent or legal guardian of a child, must give informed consent for the involvement of the child in any research project or teaching activity using animals, where animals could be harmed in any way.
2. An approved or registered Animal Ethics Committee (AEC) that approves all animal care and use for scientific purposes of the institution, of which the AEC Terms of Reference is submitted to the SAVC; whose composition and operation complies with the South African National Standard for the Care and Use of Animals for Scientific Purposes (SANS 10386); and on which there is formal representation of a registered Animal Welfare Organisation who are knowledgeable on animal welfare, care and use for all applicable animal species, as well as a registered veterinarian who is knowledgeable on the health, welfare and clinical procedures of all applicable animal species;
3. The animal facility, rooms or areas must comply with minimum standards for research animal facilities, as defined by the SAVC, and which is registered with the SAVC as a research animal facility;
4. A registered veterinarian has oversight of animal health and welfare of all animals on a regular basis;
5. The guarantee of animal welfare, by regular (at least annual) inspection by Animal Welfare Organisations, with identified deficiencies addressed adequately and timeously, as well as welfare monitoring mechanisms and frequencies as determined by Animal Ethics Committees.
6. The name of the registered veterinarian or registered veterinary para-professional (SAVC-appointed supervisor) who will be responsible for the compliance of the SAVC-defined conditions of authorisation, together with the leader of the scientific or educational project, the chairperson of the Animal Ethics Committee and the Head of the Institution;
7. Listing of all veterinary or para-professional services or procedures, per animal species, for which the teacher, researcher, or student needs authorisation and for which competence has been formally confirmed for each individual and procedure by a registered veterinarian;
8. Certification of theoretical and practical competence of all persons, by the veterinarian confirming competencies and the chairperson of the Animal Ethics Committee;
9. Signing of a supervision agreement between the SAVC, Head of the Institution, Chairperson of the Animal Ethics Committee, the person applying for authorisation (e.g. teacher), and the SAVC-appointed supervising veterinarian and/or veterinary para-professional, at the time of the submission of the application, confirming that all parties will adhere to the SAVC-defined conditions of the authorisation, should it be granted. The agreement will include the requirement of regular submission of satisfactory status reports to the SAVC by the SAVC-appointed supervisor for all authorised persons, confirming their sustained competence, and the conditions of authorisation will specify the intervals at which the reports would have to be submitted as well as the detail required in such reports;

10. Submission of a positive inspection report by a registered veterinarian or veterinary para-professional (SAVC-appointed Inspector) confirming acceptable compliance with the relevant legislation and standards for the care and use of animals for scientific purposes and that the facility complies with the relevant minimum standards for research animal facilities;

11. Confirmation that a registered Animal Welfare Organisation is represented and active on the Animal Ethics Committee, who are knowledgeable on animal welfare, care and use for all applicable species;

References


