Reporting of Animal Use Data

Introduction

In 1996, the Canadian Council on Animal Care (CCAC) introduced the CCAC Animal Use Data Form (AUDF) in order to refine and standardize the annual collection of data. The AUDF allows CCAC to publish aggregate information on animal use in science without identifying individual institutions or animal users. It provides not only the numbers of animal used per category of animals, but also the purpose of animal use and the degree of invasiveness of the procedures used on the animals.

The CCAC requests that institutions report their experimental animal use data every year, as indicated in Section 5c of the CCAC policy statement on: terms of reference for animal care committees, for the purpose of its annual animal use statistics.

The deadline for submission of the AUDF is *** MARCH 31st *** of each year.

The CCAC is attempting to streamline animal use data entry and would appreciate your help in doing so. Please send your AUDF electronically as an email attachment or, if this is not possible, please include a copy of your AUDF on a diskette or CD when sending your data by regular mail.

Download the CCAC Animal Use Data Form

The AUDF is available in either WordPerfect, Microsoft Word or Excel format. In order to view this form, please click on the appropriate format for your institution. You will be prompted to specify the directory in which to save the file(s) on your hard drive.

You can then use this template to complete the form on your computer. For the Word and WordPerfect formats, please use the TAB key to move your cursor from one cell to another. When you press the TAB key in the last cell of the table, the computer will automatically add a row to the table so that you can continue entering your data. The Excel format is a standard worksheet. General information on the institution should be filled in on the first page and the data entry table begins on the second page. We ask that you choose a font style and size that is easy to read. We recommend "Arial" or "Times New Roman" font in size 12 pt.
Instructions on How to Complete the CCAC Animal Use Data Form

The CCAC interpretation bulletin on: the animal use data form (new)

We invite you to read the document CCAC interpretation bulletin on: the animal use data form before submitting your animal use data to CCAC. This document has been produced to provide information and assistance to CCAC constituents in filling out the CCAC AUDF. It describes and explains each element that has to be completed on the AUDF, provides answers to some commonly asked questions, and gives examples on how to submit animal use data. The interpretation bulletin also introduces the minor adjustments that have been made with respect to reporting animal use. For example, CCAC recently created a new purpose of animal use, PAU 0, for breeding colonies. Please refer to the document for additional details.

List of Animals to be Included/Not Included on the Animal Use Data Form

All vertebrates and cephalopods used for research, teaching or testing, or for display purposes or eventual use in research, teaching or testing must be the subject of a written animal use protocol to be approved by the institutional ACC. However, not all animals need to be included on the AUDF.

Animals to be Included on the AUDF

- all vertebrates (including fish) used for research, teaching or testing;
- cephalopods (octopus and squid) used for research, teaching or testing;
- animals held, even for a short period, if assigned to a protocol (see exceptions below);
- animals used for teaching purposes, even if cared for through routine husbandry under a herd management protocol;
- mammals which are tagged in studies that involve some sort of restraint and the taking of measurements or tissue samples;
- fish fitted with transmitters;
- animals involved in lethal field sampling for research, teaching or non-routine testing purposes (not including lethal field sampling for population management and monitoring programs); and
- animals used outside of Canada by Canadian scientists, who have submitted an animal use protocol form for these animals to their institutional animal care committee.

Animals NOT to be Included on the AUDF

- all animals assigned to category of invasiveness A;
- all invertebrates other than cephalopods;
- all dead animals that were not killed specifically for a protocol;
- eggs, embryos, larvae (except for fish larvae that have reached a stage where survival can reasonably be expected);
- animals observed (no manipulation or interference of any kind) in field studies;
• animals held in breeding colonies under a breeding protocol and which have not been assigned to a particular research, teaching or testing protocol;
• privately owned animals should not be reported on the AUDF if the primary reason for seeing them is for medical reasons, and not for training opportunities for students. For example, client animals brought into a Veterinary College or an external veterinary clinic are primarily there for veterinary care, and even though students sometimes use these animals as part of their educational training — these animals should not be reported on the AUDF. However, some colleges with a Veterinary Technician program have clinics that are used exclusively as teaching clinics. Animals seen in a teaching clinic, although provided with veterinary care, are primarily used to train students in the Veterinary Technician program. Therefore, these animals should be reported on the AUDF;
• animals which have already been killed as the result of standard commercial practices;
• hatchery fish reared for release, unless specifically used in experiments or displays;
• fish involved in mark-recapture studies for abundance estimates, migration, and other parameters required for assessing stocks;
• fish counted at installations such as counting fences and traps;
• fish which are lethally sampled (such as trawling, gill netting, etc.) for fish inspection procedures, abundance estimates, and other population parameters required for assessing stocks and for monitoring contaminant/toxin levels and disease;
• sentinel animals;
• animals used as source of food for other animals; and
• teasers (teaser bitch for collecting semen).

Elements Required to be Completed on the Animal Use Data Form

To complete the CCAC Animal Use Data Form (AUDF), you must enter all data relating to animal use for purposes of research, teaching and testing between January 1st and December 31st of each year. For each animal use protocol, the following categories of information must be entered. Please refer to the CCAC interpretation bulletin on: the animal use data form for a detailed explanation of each element to be completed on the AUDF.

1) A Protocol Number

2) A Category of Invasiveness (CI)*

CI A  Experiments on most invertebrates or on live isolates

Possible examples: the use of tissue culture and tissues obtained at necropsy or from the slaughterhouse; the use of eggs, protozoa or other single-celled organisms; experiments involving containment, incision or other invasive procedures on metazoa.

* Excerpt from the 1991 CCAC policy statement on: categories of invasiveness in animal experiments
**CI B**  Experiments which cause little or no discomfort or stress

**Possible examples:** domestic flocks or herds being maintained in simulated or actual commercial production management systems; the short-term and skillful restraint of animals for purposes of observation or physical examination; blood sampling; injection of material in amounts that will not cause adverse reactions by the following routes: intravenous, subcutaneous, intramuscular, intraperitoneal, or oral, but not intrathoracic or intracardiac (Category C); acute non-survival studies in which the animals are completely anesthetized and do not regain consciousness; approved methods of euthanasia following rapid unconsciousness, such as anesthetic overdose, or decapitation preceded by sedation or light anesthesia; short periods of food and/or water deprivation equivalent to periods of abstinence in nature.

**CI C**  Experiments which cause minor stress or pain of short duration

**Possible examples:** cannulation or catheterization of blood vessels or body cavities under anesthesia; minor surgical procedures under anesthesia, such as biopsies, laparoscopy; short periods of restraint beyond that for simple observation or examination, but consistent with minimal distress; short periods of food and/or water deprivation which exceed periods of abstinence in nature; behavioural experiments on conscious animals that involve short-term, stressful restraint; exposure to non-lethal levels of drugs or chemicals. Such procedures should not cause significant changes in the animal's appearance, in physiological parameters such as respiratory or cardiac rate, or fecal or urinary output, or in social responses.

**Note:** During or after Category C studies, animals must not show self-mutilation, anorexia, dehydration, hyperactivity, increased recumbency or dormancy, increased vocalization, aggressive-defensive behaviour or demonstrate social withdrawal and self-isolation.

**CI D**  Experiments which cause moderate to severe distress or discomfort

**Possible examples:** major surgical procedures conducted under general anesthesia, with subsequent recovery; prolonged (several hours or more) periods of physical restraint; induction of behavioural stresses such as maternal deprivation, aggression, predator-prey interactions; procedures which cause severe, persistent or irreversible disruption of sensorimotor organization; the use of Freund's Complete Adjuvant (FCA) (see *CCAC policy statement on: acceptable immunological procedures*).

**Other examples** include induction of anatomical and physiological abnormalities that will result in pain or distress; the exposure of an animal to noxious stimuli from which escape is impossible; the production of radiation sickness; exposure to drugs or chemicals at levels that impair physiological systems.

**Note:** Procedures used in Category D studies should not cause prolonged or severe clinical distress as may be exhibited by a wide range of clinical signs, such as marked abnormalities in behavioural patterns or attitudes, the absence of grooming, dehydration, abnormal vocalization, prolonged anorexia, circulatory collapse, extreme lethargy or disinclination to move, and clinical signs of severe or advanced local or systemic infection, etc.
CI E Procedures which cause severe pain near, at, or above the pain tolerance threshold of unanesthetized conscious animals

This Category of Invasiveness is not necessarily confined to surgical procedures, but may include exposure to noxious stimuli or agents whose effects are unknown; exposure to drugs or chemicals at levels that (may) markedly impair physiological systems and which cause death, severe pain, or extreme distress; completely new biomedical experiments which have a high degree of invasiveness; behavioural studies about which the effects of the degree of distress are not known; use of muscle relaxants or paralytic drugs without anesthetics; burn or trauma infliction on unanesthetized animals; a euthanasia method not approved by the CCAC; any procedures (e.g., the injection of noxious agents or the induction of severe stress or shock) that will result in pain which approaches the pain tolerance threshold and cannot be relieved by analgesia (e.g., when toxicity testing and experimentally-induced infectious disease studies have death as the endpoint).

3) A Brief Protocol Description

(Approximately 40 words or less) which must convey, in simple terms, the nature of the procedures conducted on the animals. The use of procedural keywords is encouraged.

The CCAC recommends the use of the following keywords:

**General**

- research, teaching, testing;
- regulatory (if the experiments are performed directly in relation to testing regulations in force in Canada and/or the US (FDA, EPA, etc.) and/or elsewhere), type of testing (e.g., cosmetic testing);
- field work, behavioural observation, environmental protection study, wildlife conservation;
- development of techniques, study of the effectiveness of a product (drugs, others) or a method (spectroscopy, others);
- breeding, breeding colony, sentinel program;
- antibody production (monoclonal, polyclonal);
- pilot study;
- palatability test;
- digestibility test;
- reinforcement/motivation;
- staged behavioural encounters;
- primary cell culture, tissue/organ collection, graft, transplant;
- species, transgenic animal; and
- validation of non-animal model (*in vitro* test, computational methods...).

**Procedures**

Trapping/netting, marking/tagging, injection (intravenous, subcutaneous, intramuscular, intraperitoneal), blood sampling/testing (small volume), blood removal (large volume),
gavaging, physical restraint, infection induction, whole-body radiation, physical euthanasia, food deprivation, water deprivation, special diet, altered environmental exposure, physical restraint (duration).

**Agents**
Radioisotope administration, chemical exposure, infectious agents, immunogenic or inflammatory agents, Freund’s complete adjuvant.

**Surgery**
Major surgery, minor surgery, stereotaxic surgery, survival surgery, multiple surgeries, cannulation.

4) **A Purpose of Animal Use (PAU)**

**PAU 0  Breeding Colony/Stock**
Animals held in breeding colonies (e.g., fish, rodents) that have not been assigned to a particular research, teaching or testing protocol.

**PAU 1  Studies of a fundamental nature** in sciences relating to essential structure or function (e.g., biology, psychology, biochemistry, pharmacology, physiology, etc.).

**Possible examples:** studies designed to understand the cellular and/or molecular basis of inflammatory reactions or other basic physiological or biochemical reactions; studies designed to understand one or some of the various facets of the role played by a hormone or other compound produced by mammals; studies designed to better understand the behavior of various species; studies designed to better understand the population dynamics of various species.

**PAU 2  Studies for medical purposes**, including veterinary medicine, that relate to human or animal diseases or disorders.

These are studies carried out to better understand a specific disease or disorder and to help find therapies for it.

**Possible examples:** development of a mouse model for a specific type of cancer or other disease; studies to determine which antibodies are the most likely to contribute positively to the therapy of a specific type of cancer; studies to determine which molecule within a particular class of compounds is the most likely to contribute to maintaining stable blood glucose levels in an animal model of diabetes.

**PAU 3  Studies for regulatory testing** of products for the protection of humans, animals, or the environment.

**Possible examples:** safety testing, regulatory toxicology, vaccine efficacy trials and testing of new therapeutic compounds (if it is to generate data that is going to be used in a submission for an Investigational New Drug Application (IND) or for a New Drug Submission (NDS)); shellfish toxin.

**PAU 4  Studies for the development of products** or appliances for human or veterinary medicine.
These are the studies carried out to investigate potential therapies (as determined following studies of PAU 2) for humans or animals, before regulatory testing (PAU 3) is carried out on the most promising therapies.

Possible examples: studies undertaken in animals to investigate the role and effects of a specific drug or immunotherapy candidate for cancer; studies undertaken to develop physical devices to assist heart function; studies undertaken to develop artificial organs.

**PAU 5 Education and training** of individuals in post-secondary institutions or facilities.

These are teaching or training programs where animals are used to introduce students to scientific work and teach manual skills and techniques.

5) The Animal Species

All animal species used in each protocol must be identified using their common name. **All species must be clearly identified**, so please do not use general categories such as "avian", "various reptiles", "small mammals", etc.

For institutions that use cats and/or dogs, please specify whether these animals were acquired from a random source (i.e. were not bred specifically for research, teaching or testing, by either a commercial supplier or within your own or another institution; these animals are generally obtained from pounds or humane societies or are the animals of students or clients) or whether they were purpose-bred (i.e. were bred specifically for research, teaching and testing, by either a commercial supplier or within your own or another institution).

6) A Number of Animals Approved (AA)

The number of animals for use in a protocol must be approved by the institutional animal care committee. In cases where no animals were approved, please enter "zero" instead of leaving a blank space.

7) A Number of Animals Used (AU/Yr)

The numbers of animals used between January 1st and December 31st must be entered for every protocol. In cases where no animals were used, please enter "zero" instead of leaving a blank space. **An animal must only be counted once per year in our statistics**; therefore, if a group of animals is used again in a second protocol, please indicate this by putting an "R" and the first protocol number next to the number of animals used for the second protocol.

Please note that the CCAC is no longer requesting that names of researchers and teachers be included within the AUDF.