

 Reference No:

UNIVERSITY OF CANTERBURY

**APPLICATION FOR USE OF ANIMALS IN RESEARCH**

[Form revised November 2022 – V1]

*This form is required for all experimental work, capture, containment and obtrusive observational work on animals. The Animal Ethics Committee (AEC) is required to minimise the use of animals as well as reduce, avoid, or ameliorate the pain, suffering, and death of animals used in Teaching and Research at the University of Canterbury. Applicants are advised to refer to the Animal Welfare Act 1999 and Animal (Records and Statistics) Regulations 1999. This form must be written in language that is understandable to the entire Animal Ethics Committee, including the lay members of the committee.*

*“Animals” means:*

1. *any live mammal including a marine mammal (but does not include human being);*
2. *any live bird;*
3. *any live reptile or amphibian;*
4. *any live fish, octopus, squid, crab, lobster, or crayfish;*
5. *any other animal that is declared by the Governor-General by Order in Council.*

*Please send* ***NINE PAPER COPIES*** *and* ***ONE ELECTRONIC COPY*** *of the completed form, signed by the applicant and supervisor and the Head of Department, and any relevant documentation to the Secretary of the Animal Ethics Committee (animal-ethics@canterbury.ac.nz).*

**PLEASE REFER TO THE DOCUMENT ENTITLED “GUIDELINES FOR COMPLETING AN APPLICATION FOR USE OF ANIMALS IN RESEARCH” FOR ADVICE ON FILLING IN THIS APPLICATION.**

**1 Title of project:**

**2 Name(s) of applicant(s):**

 **Level of Study/Degree Sought (if applicable):**

 **Contact address:**

 **Phone:**

 **Email:**

 **Supervisor’s Name(s):**

 **Position(s):**

 **Contact Phone:**

 **Email:**

**3 Plain language summary:**

 *Using the headings below,* *please provide a summary of your research project in PLAIN LANGUAGE using non-technical terms (if any technical terms must be included, please include a glossary). To minimise approval delays, this summary must be understandable to anyone, inside or outside the University. It should provide the overall gist and contribution of what is intended. It should clearly state the objectives of the research and why it is being conducted. Leave details for other sections and avoid copy and paste from those sections. Proposals without an appropriate plain language summary cannot be approved. This section is limited to < 250 words.*

*Objective(s) of the research:*

*Key methods used in this application:*

*Contribution to science (novelty or state reasons for repetition):*

# 4 Intended start date of project:

# Completion date of project:

**5 Has this application been considered by another AEC?**

**6 Is this application related to previous applications considered by the AEC? If so, provide an explanation of the relationship of the current application to previous application(s).**

# 7 Purpose of the Research

1. Provide a brief background (i.e., the scientific reason(s) for this work). List any references cited at the end of the application. This should not be a detailed literature review.
2. List the specific objectives that the project will achieve (provide details of what is to be done in section 9).
3. What are the anticipated benefits of the research that justify the project?
4. Does your project duplicate a similar project/publication? If so detail those parts of your project that involve duplication and why this is justified? (consult the Good Practice Guide for the use of Animals in Research, Testing and Teaching for definitions of replication, repetition and duplication)
5. Explain how the results will be promoted and/or published (e.g. thesis, publication, teaching)?

**8 Total number of individuals and species to be used** (add more rows for additional species). For each species, give the source (e.g., breeding unit, captured, born during project, etc.). Please anticipate the total number involved or captured, even if a smaller sample will be used for any manipulations.

|  |  |  |
| --- | --- | --- |
| **Number** | **Species** | **Source of animals** |
|  |  |  |
|  |  |  |

**9 Detail the group(s) in your study and provide a justification for the number of animals needed.** Explain the number of groups, and how many animals are in each group. Provide the rationale for each group (treatment, control, etc.), and how you arrived at these numbers. If appropriate, provide a simple table for clarity. When appropriate use power analyses or statistical calculations to estimate sample sizes required. Explain any differences relative to the total number that might, for example, be captured in the wild.

**10 Explain how you have attempted to reduce the number of animals, replace the use of animals with other methods, and refine your experiments to gain additional information in the planning of this work.** This is the 3R's of animal ethics and each point needs to be carefully considered and addressed.

1. Reduce:

 b) Replace:

c) Refine:

**11 Describe the procedure(s) requiring approval from the Animal Ethics Committee.** Please number and list the procedures and describe each one in detail. For each procedure, include a description of what will happen to the animal and the time taken for the procedure. If appropriate, include a table giving the timeline for the procedure(s) to be experienced by the animals. For animals that are to be captured from the wild, please also include method of capture and transport (if required) in the list of procedures. Remove or add additional subheadings as required. Note, for details of anaesthetic procedure and post-operative care, provide a numbered title here but use Sections 14 and 15 for details.

*Procedure 1:*

*Procedure 2:*

*Procedure “N”:*

**12 If a Standard Operating Procedure (SOP) will be followed in any of the procedures listed in section 11, provide the name of the SOP.**

**13 For each of the procedures listed in section 11, indicate its severity according to the following scale (**taking into account the effect of any anaesthetic, analgesic, euthanasia technique, or other strategy or practice that is applied or used, or any other step taken, to avoid or alleviate the stress or pain caused to the animal). Use the table to list each procedure, the number of individuals that will be subject to this procedure, and its impact grading (add more rows for additional procedures). Please consult the attached appendix to assess the NAEAC impact grades.

The grading scale is:

No impact **A** (a manipulation of no or virtually no impact)

Little impact **B** (a manipulation of minor impact and short duration)

Moderate impact **C** (a manipulation of minor impact and long duration or moderate impact and short duration)

High impact **D** (a manipulation of moderate impact and long duration or high impact and short duration)

Very high impact **E** (a manipulation of high impact and long duration)

|  |  |  |  |
| --- | --- | --- | --- |
| **No. procedure** (from section 11) | **Name of procedure** | **No. individuals** **to be used** | **Impact grading** |
|  |  |  |  |
|  |  |  |  |

**Provide a brief explanation of your gradings in the table above:**

**14 For individual animals subject to more than one procedure, what is the cumulative impact grading of the procedures listed in sections 11 and 13?**

|  |  |  |
| --- | --- | --- |
| **Combination of procedures experienced** **by an animal** (use numbers in section 11) | **No. individuals** **to be used** | **Cumulative** **impact** **grading** |
|  |  |  |
|  |  |  |

**Provide a brief explanation for the gradings in the table above:**

**15 Describe why alternative methods (non-invasive, not involving the death of an animal, etc.) are not available, or suitable for the procedures listed in section 11:**

**16 What are the endpoints of your study for each of the procedures listed in part 11?** All studies should have an endpoint, or a series of conditions (e.g. time an animal is subjected to a treatment) under which the animal will no longer be subjected to a protocol and you consider the procedure completed. As procedures do not always go to plan, please also outline for each procedure the conditions under which you will stop administering the treatment if the animal shows responses that were not expected (e.g., loss of consciousness, loss of B.A.R.). Remove or add additional subheadings as required.

*Endpoint for procedure 1:*

*Endpoint for procedure 2:*

*Endpoint for procedure “N”:*

**17 If applicable, detail the procedures for anaesthesia.** Include information on choice of anaesthetic, dose rate, how anaesthetics will be administered, methods of maintaining sterility, monitoring of animal during and post anaesthesia and procedures for dealing with any potential complications. If applicable, please indicate if a Standard Operating Procedure (SOP) will be followed for a procedure, and the name of the SOP.

**18 If applicable, detail procedures of post-operative care.** Include information on choice of analgesics, dose rate, how analgesics will be administered, methods of maintaining sterility, and procedures for dealing with any potential complications. Describe how you will monitor animals after surgery (including frequency of monitoring, and how the condition of the animal will be assessed). If applicable, please indicate if a Standard Operating Procedure (SOP) will be followed for a procedure, and the name of the SOP.

**19 Sometimes an animal must be euthanized if it does not recover as expected from a procedure listed in section 11. Describe the criteria you will use to assess that an animal is unlikely to recover and so must be euthanized.** Include information on how the animals will be euthanized (include dose if drug is used), the personnel involved, and how death will be confirmed.

**20 Where are the animals to be held and the experiments performed?** If animals are held in captivity, describe the routine monitoring (e.g. frequency of checks) and care your animals will receive (e.g. *ad libitum* food).

**21 The procedures described above will be conducted by (tick any as appropriate)**

Note that all additional personnel involved in the project must have appropriate training in the proposed procedures and be supervised by the applicant(s**).**

 **\_\_\_\_\_ The applicant(s)**

**\_\_\_\_\_ Research assistants employed by the University**

**\_\_\_\_\_ Qualified animal technicians employed by the University**

**\_\_\_\_\_ Other (give name)**

**22 List the relevant qualifications and experience of applicants (and other personnel as listed in part 21) for carrying out the procedures listed in section 11:**

**23 a) For applications involving anaesthesia or surgery, describe your previous experience in the procedures and any training you have obtained.**

**b) Has the University of Canterbury Veterinarian provided training in the procedures you plan to use?**

**24 Monitoring of animals. Who will monitor the animals in your project?** Detail the monitoring methods and frequency of monitoring. Explain the provisions you have in place for emergency care of project animals (including nights and weekends).

**25 What will happen to the animals once the project has been completed?** Note it is the responsibility of the researcher to ensure the welfare of their animals at the end of the project. It may or may not be suitable to return the animals to their habitat/laboratory setting.

**26 Declaration and signatures**

**I (We) the undersigned have read and understood the Code of Ethical Conduct and the appendices under which the University of Canterbury Animal Ethics Committee operates. I (We) understand that we cannot commence work until formal approval is received and all applicants have successfully complete an on-line exam on the use of Animals in Research, Testing, and Teaching (a study manual and copy of the exam are available on the Animal Ethics webpage or by contacting the Secretary of the AEC directly). I (We) also confirm that all personnel involved in this project have read the protocol and are trained to carry out their roles.**

If the application is approved I (We) agree to:

1. *If a protocol needs to be changed an application for Amendment to Approved Protocols (available from AEC webpage or secretary) will be resubmitted to the Animal Ethics Committee for their approval.*
2. *Inform the AEC immediately in writing if unanticipated problems eventuate that could be an offence under the Animal Welfare Act 1999.*
3. *Furnish annual returns to my Departmental Representative on the Animal Use Statistics form. These records are to be retained by the University for ten years after the year to which they relate. The Department will be contacted by the Secretary of the Animal Ethics Committee when these statistics are required for collation and reporting to MPI.*
4. *Obtain approval from DOC, Ngai Tahu or other iwi as appropriate if the work involves protected indigenous species*
5. *Complete a final report upon completion of the project using the Final Report on Project form available from the AEC webpage or secretary.*

Please note that in some circumstances applicants may be required to appear before the AEC to answer questions. Applicants are reminded that any amendments to approved protocols (including extension to date of completion) must be approved by the Animal Ethics Committee.

**Signature of applicant(s): Date:**

**Signature of supervisor: Date:**

**Signature of the Head of Department: Date:**

**Office use:** Date received: Date approved/declined:

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# *Approval:*

Approved (Chair, Animal Ethics Committee) Date:

Any Special conditions applying:

**Appendix: NAEAC Impact grades**

The National Animal Ethics Advisory Committee (NAEAC) requires the following grading scale. Please record the grade of each manipulation. Where an animal is used in more than one manipulation, please grade the animal by the cumulative impact of the proposed protocols. NAEAC examples by category are listed below.

**Grade A: No impact or virtually no impact**

Mental state: Field observations of grazing behaviour on farms, or benign handling of tame and trained animals that are familiar with all personnel and procedures and with the place where the procedures are conducted.

Food/water: Animals kept outdoors eating their usual food in appropriate amounts; grazing trials on treated pastures; offering supplements to naturally available food; provision of complete, balanced rations to meet all nutritional requirements of animals maintained indoors.

Environmental challenge: Exposure to ambient conditions that are within the thermoneutral range; reduced barometric pressure (or equivalent reductions in oxygen concentration) which do not cause increases in red blood cell production.

Disease/injury/functional impairment: Studies of healthy uninjured animals that are kept in physical conditions which do not themselves lead to injuries such as lameness or compression sores; studies to establish normal characteristics of healthy animals.

Behaviour: Studies of wild or undomesticated animals in their natural habitats; field studies of domesticated animals.

**Grade B: Little impact; Manipulations of minor impact and short duration**

Mental state: Experiments on completely anaesthetised animals that do not regain consciousness; simple venepuncture or venisection; injection of non-toxic substances; skin tests which cause low-level irritation without ulceration/erosion; feeding trained animals by orogastric tube; movement of free-range domesticated animals to unfamiliar housing; minor restrictions of water and/or feed intake beyond the normal period of satiation.

Food/water: Water priming for kidney function tests; short-term overall food intake restrictions or excesses that are within usual tolerance levels for the species; short-term changes in dietary composition that cause no clinical signs of deficiency or toxicity, but which would cause such symptoms in the longer term.

Environmental challenge: Exposure to levels of cold or heat that are outside the thermoneutral range, or barometric pressures (or equivalent reductions in oxygen concentration) that increase red blood cell production, but which remain within the capacity of the animals to adapt and do not lead to debility in the long term.

Disease/injury/functional impairment: Studies of vaccines using killed pathogens; tuberculosis tests; induction of mild fever without other debilitating effects; induction of subclinical parasitism; healing of minor superficial incisions, cuts or wounds; minor surgical and/or pharmacological modification of homeostatic capacity (for example, creation of non‐obstructive gut fistulae; splenectomy; endocrine gland removal with complete and permanent hormone replacement therapy); physical conditions which cause transient lameness of low intensity, mild compression sores or abrasions.

Behaviour: Mild and short‐term physical restraint; keeping free‐range domesticated animals in a yard; movement of free‐range domesticated livestock to unfamiliar housing; operant conditioning with positive reinforcement in barren laboratory environments; benign preference tests in unnatural surroundings.

**Grade C: Moderate impact; Manipulations of minor impact and long duration or moderate impact and short duration**

Mental state: Recovery from major surgeries like thoracotomy, orthopaedic procedures, hysterectomy or gall bladder removal with effective use of analgesics; surgical procedures on conscious animals but with the use of local anaesthesia and systemic analgesic; movement of excitable free‐range domesticated livestock to unfamiliar housing; short‐term capture, handling and restraint of wild or semi‐domesticated animals that exhibit marked flight responses; moderate restrictions of water and/or feed intake beyond the normal period of satiation.

Food/water: Simulation of usual overall intake restrictions often experienced by pregnant/lactating ruminants during cold winters or drought; dietary induction of milk fever in cattle; induction of mild deficiency or toxicity signs by feeding diets containing inadequate or excessive amounts of essential nutrients.

Environmental challenge: Short‐term exposure to severe extremes of cold or heat or barometric pressure (oxygen concentration) which would lead to collapse if prolonged.

Disease/injury/functional impairment: Studies involving the induction of clinical parasitism; induction of mild reversible infectious diarrhoea; moderate surgical and/or pharmacological modification to homeostatic capacity (for example, limited gut resection; endocrine gland removal with delayed or incomplete hormone replacement therapy); physical conditions that cause minor chronic lameness or other injuries; studies of the effects of infectious or toxic agents that cause rapid death without distress.

Behaviour: Medium‐term restrictions of instinctive behaviour; medium‐term holding of ruminants in a metabolism crate; long‐term restraint leading to the development of reversible stereotypies; changing social group composition.

**Grade D: High impact; manipulations of moderate impact and long duration or high impact and short duration**

Mental state: Recovery from major surgery under anaesthesia without the use of postoperative analgesics; marked social or environmental deprivation; longer term capture, handling, restraint or housing, without the use of tranquilisers, of wild or semidomesticated animals that exhibit marked flight responses.

Food/water: Dietary induction of advanced pregnancy toxaemia in sheep or ketosis in dairy cattle; dietary induction of advanced signs of nutrient deficiency or excess; severe deleterious effects of dietary toxins; severe restrictions of water and/or feed intake beyond the normal period of satiation.

Environmental challenge: Prolonged exposure to severe cold or heat or altered barometric pressure (oxygen concentration) that would lead to failure of thermoregulation and collapse, but the exposure is terminated just before those outcomes.

Disease/injury/functional impairment: Studies of severe facial eczema; induction of severe diarrhoea or severe infectious pneumonia; protracted or irreversible pharmacological modification of homeostatic capacity (for example, chemical induction of diabetes mellitus without replacement therapy); marked surgical modification of homeostatic capacity (for example, extensive gut resection; cutting of sensory or motor nerves serving large areas of the body from which no self‐mutilation injury results; precise lesioning of limited areas of the brain but with intervention before collapse); physical conditions that cause moderate chronic lameness or other injuries; studies of the effects of infectious and toxic agents that cause either a protracted death with minor distress or a rapid death with moderate distress.

Behaviour: Application of marked and repeated noxious stimuli from which escape is impossible; prolonged periods (several hours or more) of close physical restraint; marked alterations to the perceptual or motor functions of animals to test consequent behaviour.

**Grade E: Very high impact; manipulations of high impact and long duration**

Mental state: Conducting major surgeries without the use of anaesthesia on control animals in assessing efficacy of analgesics; testing the efficacy of analgesics in animals with severe induced pain.

Food/water: Experiments that cause animals to die from poisoning by toxins in the diet; protracted and severe restrictions on water and/or feed intake.

Environmental challenge: Purposeful exposure of conscious animals to lethal extremes of cold, heat or barometric pressure which duplicate naturally occurring conditions.

Disease/injury/functional impairment: Studies of methods for killing pest animals; cutting of sensory or motor nerves serving large areas of the body from which self‐mutilation injury results; evaluation of vaccines where death is the measure of failure to protect; studies of the effects of infectious or toxic agents which cause either a protracted death with marked distress or a rapid death with severe distress.

Behaviour: Application of marked and repeated extremely noxious stimuli from which escape is impossible; prolonged periods (several hours or more) of close physical restraint.