

Canadian Council on Animal Care
Conseil canadien de protection des animaux

Good Animal Practice in Science
Bonnes pratiques animales en science

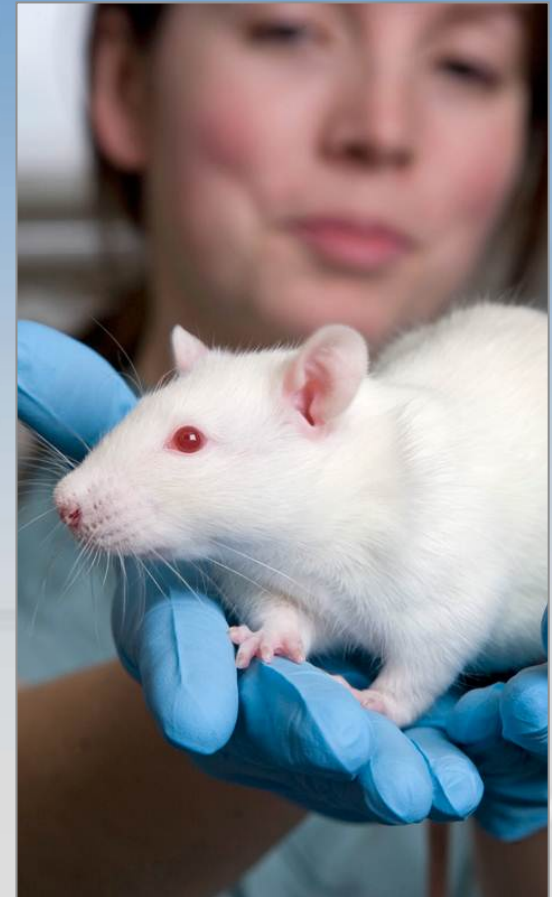


*Update on CCAC guidelines on:
the care and use of farm animals in
research, teaching and testing*

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NORECOPA, Gardermoen, Norway
September 27, 2012

The Canadian Council on Animal Care

- National peer review agency responsible for setting and maintaining standards for the ethical use and care of animals used **in science**
 - ◆ Ensure that the use of animals, employs optimal care according to acceptable scientific standards
 - ◆ Promote knowledge, awareness and sensitivity to relevant ethical principles



Setting Standards

- Guidelines Committee
 - ◆ Prioritizes and oversees process
- Subcommittees of experts
- Comprehensive review process



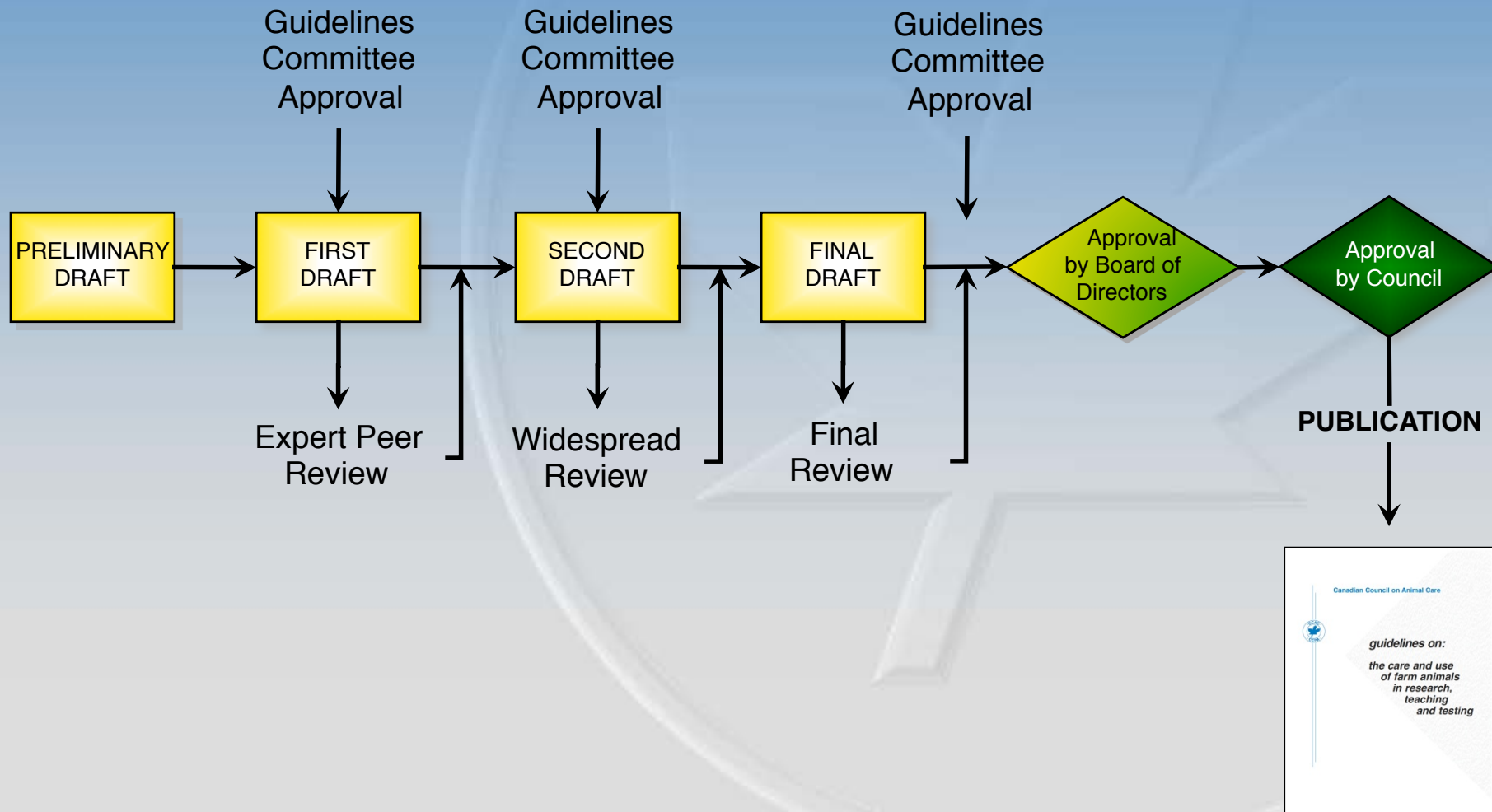
Guidelines Development Process



- Subcommittee of experts (national and international)
- Targeted contact with organizations involved in the area under consideration
- Peer review by experts (national and international)
- Widespread review – web-based consultation
- Approval and release



Guidelines Development Process



Rationale

- Revision of CCAC Guide, volume 1
- Advances in animal care
- Requirements of CCAC Assessment Program
- New issues for research community
 - ◆ Facilities
 - ◆ Animal welfare infrastructure
 - ◆ New uses

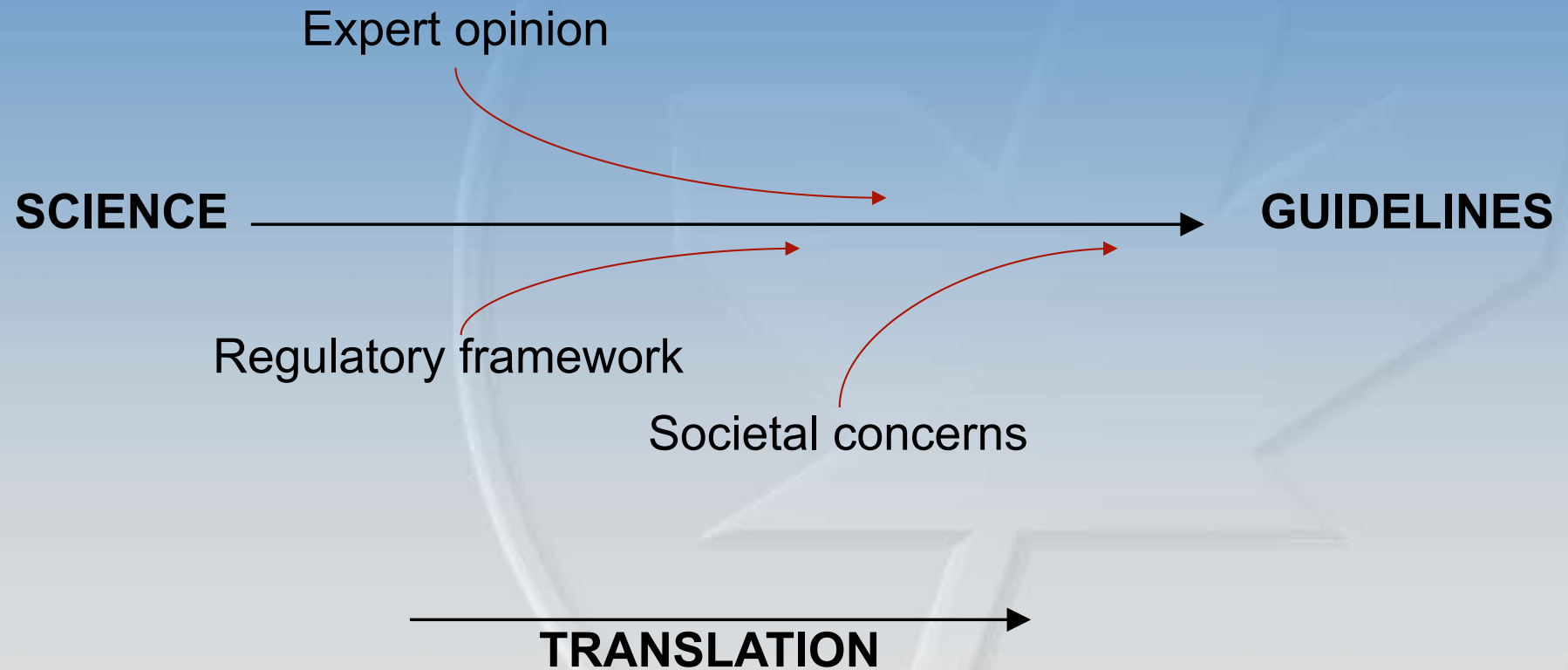


Agreed Scientific Knowledge

- Science is always evolving
- Transfer of knowledge to policy happens at discrete time-points
 - ◆ Considers societal concerns (local culture) and interests of the animals
- Good practice approach
 - ◆ Sound scientific evidence
 - ◆ Expert opinion
 - ◆ Peer review

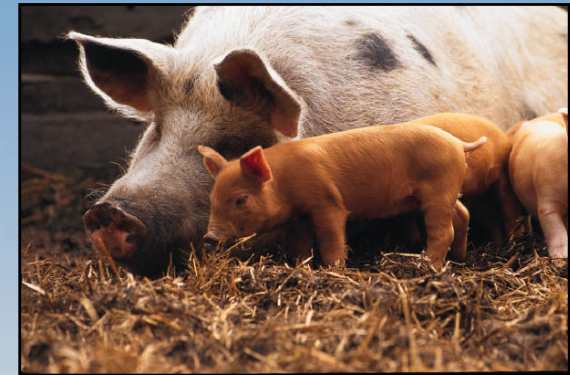


Development/Revision of Guidelines



CCAC guidelines on: the care and use of farm animals in research, teaching and testing

- Subcommittee meetings held:
 - ◆ May 18-19, 2004
 - ◆ April 11, 2005
 - ◆ November 23-24, 2006
 - ◆ April 16-17, 2007
- Workshop on Animal Welfare Assessment
April 12, 2005
- First draft circulated for expert review
July 18th, 2005
- Widespread review – July to September 2006
- Final draft review – July 2007
- Publication – 2009

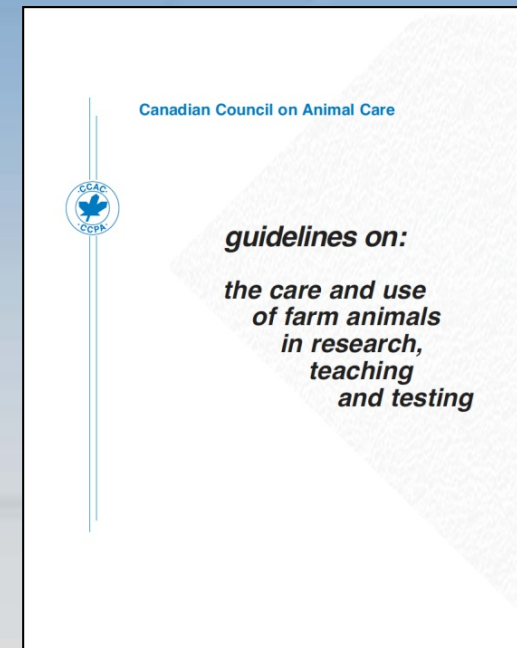


CCAC guidelines on: farm animals – Subcommittee

- Dr. Anne Marie de Passillé
Agriculture et Agro-alimentaire Canada
- Dr. Ian Duncan
University of Guelph
- Dr. John Feddes
University of Alberta
- Dr. Marilyn Keaney
University of Ottawa
- Dr. Jeff Rushen
Agriculture and Agri-Food Canada
- Dr. Harpreet Kochhar
Canadian Food Inspection Agency
- Dr. Fred Silversides
Agriculture and Agri-Food Canada
- Dr. Kim Stanford
Alberta Agriculture Food and
Rural Development
- Dr. Tarjei Tennessen (Chair)
Nova Scotia Agricultural College
- Ms. Shelagh MacDonald
Canadian Federation of Humane Societies
- Dr. Laurie Connor
University of Manitoba
- Dr. Alex Livingston
University of Saskatchewan
- Dr. David Fraser
University of British Columbia

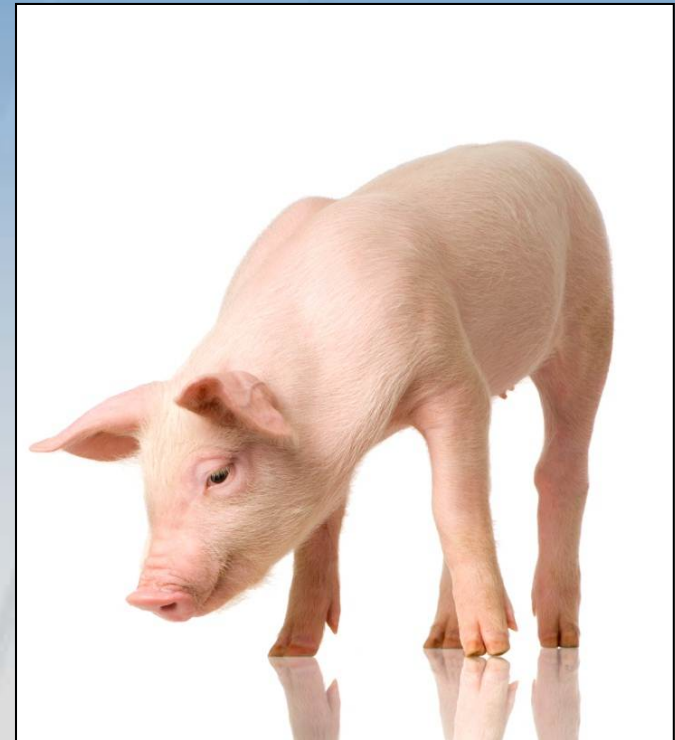
Guidelines on: the care and use of farm animals

- *CCAC guidelines on: the care and use of farm animals in research, teaching and testing (2009)*
- Updated:
 - ◆ *CCAC Guide to the Care and Use of Experimental Animals, vol. 1, 2nd ed.*



Starting Point

- Consider other international guidance in the area
 - ◆ FASS Guide for the Care and Use of Agricultural Animals in Research and Teaching
 - ◆ European Convention for the Protection Of Vertebrate Animals used for Experimental and other Scientific Purposes – Appendix A



Format

- General sections
 - ◆ Facilities
 - ◆ Facility management
 - ◆ Acquisition
 - ◆ Husbandry
 - ◆ Teaching
 - ◆ Special procedures used in research and testing
- Species specific guidelines



Three Rs and Farm Animals

- The underlying ethical basis of CCAC guidelines and policies requires adherence to the three principles of humane experimental technique outlined by Russell and Burch: Replacement, Refinement and Reduction (Russell & Burch, 1959)
- The *CCAC policy statement on: ethics of animal investigation* (1989) applies equally to farm animals used for research, teaching and testing as it does to laboratory animals



Russell & Burch



Reduction

- May not be appropriate in agricultural trials
 - ◆ where treatment of the animal is at the herd level and is non-invasive
 - ◆ where the animals may benefit from the treatment
- Where the impact of the study is uncertain, the fewest animals appropriate to provide valid information and statistical significance should be used
- Numbers of animals maintained should not exceed the number that an institution can successfully house and care for as outlined in these guidelines

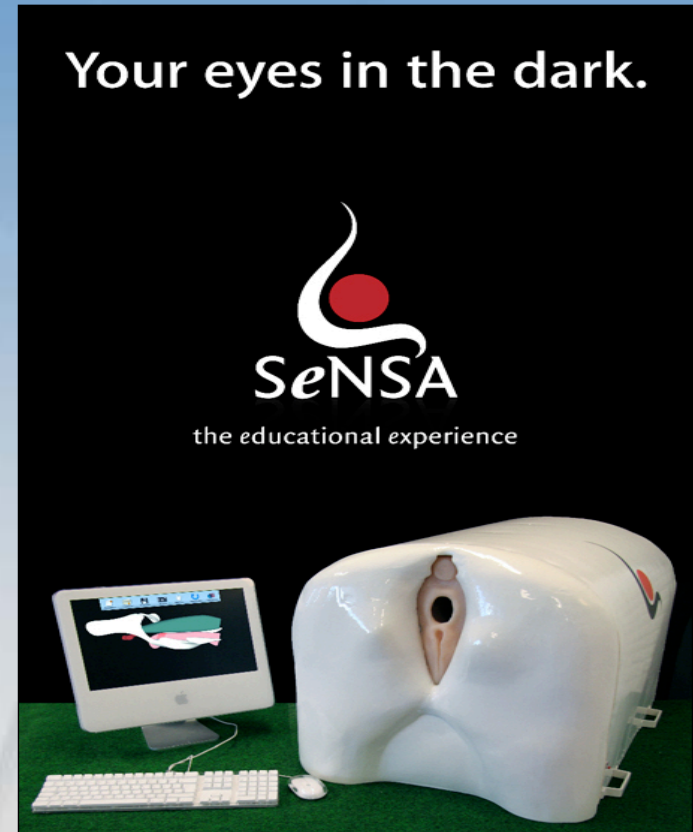
Refinement

- The most humane, least invasive techniques must be used
- Minimization of pain and distress must be a priority
- Refinement should aim for the use of techniques that have less potential to impede normal behaviors
- The animal's physical and psychological well-being should always take precedence over considerations of cost and convenience
- Investigators should use opportunities to publish refinement techniques to improve the welfare outcomes for study animals



Replacement

- Animals may only be used if the investigator's best efforts to find a replacement to obtain the required information have failed
- Investigators should ensure that they are aware of the alternative models to animal use in agricultural research, teaching and testing
- Investigators should detail the efforts that have been made to find replacement alternatives



Leadership

- Research and teaching institutions
 - ◆ Opportunities to explore and implement good practices
 - ◆ Students should graduate fully aware of current good practices
 - ◆ Studies should be carried out in facilities and according to procedures recognized as good practices
- Good animal welfare and good science go hand in hand

Relationship to Industry

- Where agricultural research must be of direct relevance
 - ◆ Best industry standards should be used
 - ◆ Justification for practices through animal care committee



Scope

- Guidelines cover farm animals used in:
 - ◆ Agricultural research
 - ◆ Teaching and training
 - ◆ Testing (e.g., vaccine development)
 - ◆ Biomedical research



Challenges – Agricultural Research

- Where agricultural research must be of direct relevance
 - ◆ Best industry standards should be used
 - ◆ Justification for practices through animal care committee



Challenges – Standard Agricultural Practices

- Research and teaching institutions should play a leadership role
 - ◆ Opportunities to explore and implement good practices



Challenges – Teaching and Training

- Students should graduate fully aware of current best practices
- Studies should be carried out in facilities and according to procedures recognized as best practices
- Frequency of use



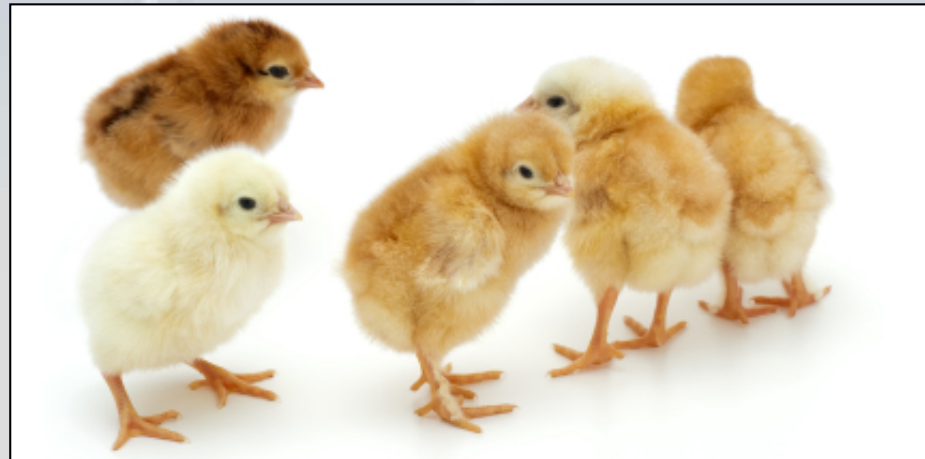
Challenges – Testing

- Invasive models
 - ◆ Humane endpoints
- Management in compatible groups
- Device testing
 - ◆ Consideration of the growth rate and life stage



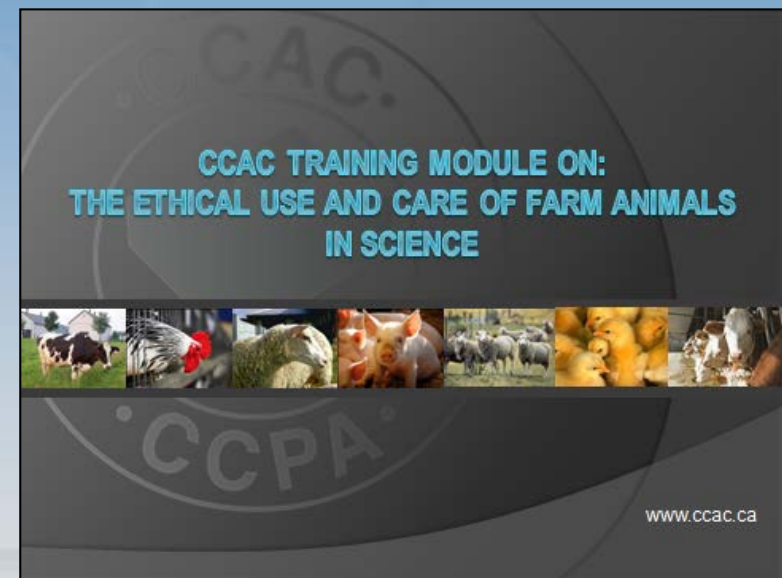
Challenges – Biomedical Research

- Genetically-engineered farm animals
- Confinement
 - ◆ Meeting social and behavioral needs
 - ◆ Exercise
- Procedures



Other Resources

- Training modules – farm animal stream
 - ◆ Ethical use and care of farm animals in science
 - ◆ Farm animals used in biomedical research
 - ◆ Genetically engineered farm animals
 - ◆ Species-specific modules



[http://www.ccac.ca/en /
education/niaut/farm](http://www.ccac.ca/en/education/niaut/farm)

CCAC Three Rs Microsite

- Section on Agricultural Research
 - ◆ <http://3rs.ccac.ca/en/research/agricultural-research.html>
- Species-specific (animal index)
 - ◆ Links to other resources, papers, books, research reports, etc.

The screenshot shows the 'Agricultural Research' page of the CCAC Three Rs Microsite. The page features a navigation bar with links for 'Home', 'Contact Us', 'Site Map', and 'Français'. The main content area is titled 'Agricultural Research' and includes a sub-header 'Relevant resources' with an image of piglets. The text discusses research to support animal agriculture, including studies on livestock husbandry systems, breeding, animal disease, and productivity. It also mentions that research is often carried out using commercial herds not owned by the institution. The page provides information on implementing the Three Rs in animal agriculture research, noting that research and teaching institutions can provide a leadership role. It lists opportunities to implement refinements in agricultural research, such as using alternatives to routine, invasive agricultural practices, using anesthesia and analgesic for routine, invasive agricultural practices, and designing environments to allow the performance of strongly motivated behaviour patterns.



THANK YOU!

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