

## ENSURING STANDARDS ARE COMPLEMENTARY

# Linking Food Safety & Animal Welfare

The OIE\* has released a scientific and technical review (Volume 24 (2), August 2005), *Animal Welfare: global issues, trends and challenges*. The publication provides a global overview on animal welfare perspectives. It aims to communicate the OIE's intended role as a leader in this area.

Drs. Anne Marie de Passillé and Jeffrey Rushen, with Agriculture and Agri-Food Canada in Agassiz, BC, were invited to provide an article for the publication. It is entitled *Food Safety and environmental issues in animal welfare*.

While the public seems to believe that food safety and animal welfare are linked, consensus is not established amongst industry players. The researchers believe that it is important to develop animal welfare and food safety standards in a consistent manner to avoid potential conflicts.

"The link between animal welfare and animal health (and hence, by implication, food safety) is supported by scientific evidence ... improvements in animal welfare have the potential to reduce on-farm risks to food safety..." say de Passillé and Rushen.

There is considerable evidence showing that chronic stress and reduced animal welfare render animals more prone to infectious diseases, shedding bacteria and the increased use of antibiotics. "Many endemic health problems

*"Animal-based measures allow greater flexibility in designing the housing and management of animals."*

are among the most serious welfare problems, especially for high producing animals," say de Passillé and Rushen.

The researchers point to a report from the European Commission stressing the importance of having animal welfare standards within the EU's food safety policy. "The report argued that on-farm monitoring of animal welfare was essential to ensure food safety. The underlying reason given was the clear link between poor animal welfare and reduced animal health and **lower food safety.**" >>>



Drs. Anne Marie de Passillé & Jeffrey Rushen

INSIGHTS provides: Information on livestock welfare in Canada and elsewhere • Reports on research, initiatives and issues • A link for producers, researchers, government, animal welfare groups and the media • A *Putting Farm Animal Welfare on the Agenda* Project resource.

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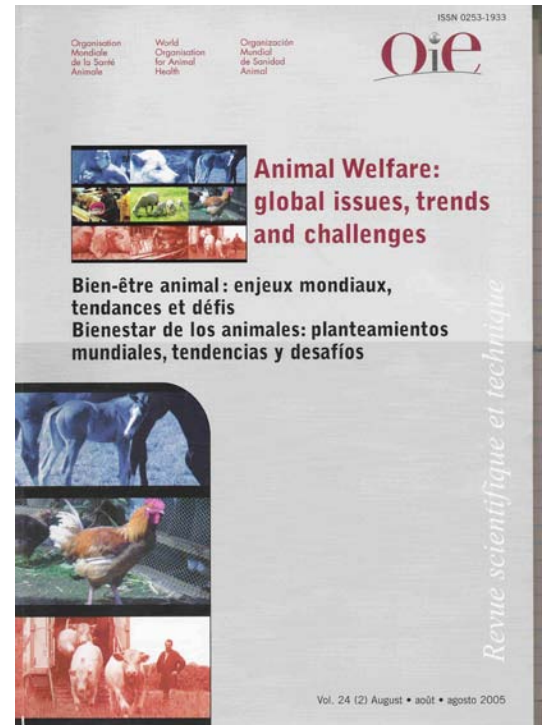
## LINKING FOOD SAFETY AND ANIMAL WELFARE con't ...

Ensuring food safety and animal welfare criteria are complementary, rather than conflicting, is another challenge. De Passillé and Rushen suggest that the criteria for assessing animal welfare should be **animal-based**, (i.e., the state of the animals — using behavioural, physiological, health and production measures). “Animal-based measures allow greater flexibility in designing the housing and management of animals. In this way, controls to ensure food safety ... can more easily be incorporated, while the effects on animal welfare are monitored.”

De Passillé and Rushen argue design-based measures — cage size, groups size, etc, while favoured because they are easier to audit, are inflexible and do not necessarily lead to improved animal welfare. Design criteria cannot account for different housing systems, production practices and the potentially different needs of different breeds of animals.

The researchers suggest another step towards reconciling food safety and animal welfare standards is to use a common approach, in particular a hazard analysis of critical control points (HACCP). “Sufficient research has now been done on animal welfare to begin the initial aspects of the HACCP procedure; assessment of risks to animal welfare and identification of the critical control points where risks are high and where some control is necessary.”

While the authors recognize a full-scale HACCP-based animal welfare program may not yet be feasible, continued work in this direction is likely to ensure a smoother integration between food safety and animal welfare standards for the future. ■



\***World Organization for Animal Health** = OIE – Scientific and Technical Review, Volume 24 (2), August 2005 overview: [www.oie.int](http://www.oie.int)

Sample HACCP-based animal welfare audits: [www.grandin.com](http://www.grandin.com)

## Biosecurity Benefits Animal Welfare

**Dr. Lotta Berg, Associate Professor** with the Swedish Animal Welfare Agency, was the keynote speaker at the February 27, 2006 Alberta Chicken Producers Conference, *The Science of Broiler Welfare*. She reinforced:

“**Biosecurity** is certainly an animal welfare issue, as animal health is an important aspect of animal welfare.

Animal welfare is basically about giving the animals what they need, such as feed, water, enough space and social contact with their own kind. Animal welfare is also about protecting the animals by not exposing them to predators, adverse weather conditions or disease in order to avoid unnecessary pain or suffering.

When seen from this perspective, it is obvious that protecting the birds from infectious diseases is definitely an animal welfare issue. **Good biosecurity routines** will prevent the chance of birds becoming exposed to infections. Infections may either directly — by causing clinical disease in the flock, or indirectly — by being potentially dangerous to human health and therefore leading to premature culling, be detrimental to bird welfare.” ■



Dr. Berg with Conference & AFAC Chair, David Hyink

## Animal Welfare Audits

### Animal welfare audit, verification program or animal care assessment tool

— regardless of the label, the goal is to measure animal welfare at some point in the production system, providing assurances that food animals are humanely treated.

**In Europe** the focus is on finding better indices of animal welfare. A Vienna conference in September 2005, *Assessment of Animal Welfare at Farm and Group Level*, reviewed the state of science in assessing animal welfare.

Conference participant, Anne Malleau of Whole Foods Market Animal Compassion Foundation, says, “Europe is in a state of flux. They know where they want to go regarding animal care assessment, but are having trouble deciding how to get there.” The debate revolves around animal versus resource or management-based criteria — which are better indicators of animal welfare?

The European project, **Welfare Quality (WQ)**, aims to develop European on-farm assessment standards. The focus is on animal-based measures — assessing the state of the animals themselves, as opposed to the environment or management systems.

Dr. David Fraser, a University of British Columbia professor who also sits on the WQ project’s Scientific Board, says, “animal-based measures work well for scoring health and functioning aspects of welfare, but how do we measure things like short-term pain?” In the instance of painful procedures an audit would need to incorporate criteria such as the use of analgesics or other mitigating procedures. “We must recognize the variety of issues in animal welfare,” says Dr. Fraser.

Anne Malleau agrees. “Whole Foods is looking at developing their own assessment program using a combination of animal, management and design criteria. A one-size-fits-all assessment tool is not going to work.”

Anne Marie de Passillé, Agriculture and Agri-Food Canada researcher, says, “Animal-based measures of welfare will catch most problems. Plus, by using animal-based measures, we are sure to get increased productivity. A big step to having producers use audits is to show the rewards.”



*Dr. Grandin conducting an Alberta meat plant audit*

Dr. de Passillé believes that other animal welfare issues can be addressed through **training courses**. Courses on animal handling, pain assessment, etc. build awareness of issues that are not easily incorporated into a checklist.

**In Europe**, the issue with audits/assessments is their effectiveness at measuring welfare. Anne Malleau says on-farm programs are widely used, but “there is little consensus on how good they are at assessing and providing feedback on systems and farms.” Another issue is how to compare one program to another.

**In Canada**, animal welfare audits have

been occurring at federally inspected processing plants for years and on-farm animal care assessment tools are being developed by commodity groups and niche markets. Dr. de Passillé believes that these tools are worthwhile. “Just having a checklist makes you do things better.”

Dr. Bill Ballantyne, Director Technical Services, Maple Leaf Pork told attendees of the 2006 Banff Pork seminar that in Canada animal welfare audits of pork processors began in 2001. “The audits were characterized by an emphasis on

quantifiable and easily observable outcomes.” This has led to many improvements. “Animal welfare receives resources for training, audits have prompted changes at facilities (that also normally lead to improved meat quality), and generally employees feel better about what we do. We have come a long way,” says Dr. Ballantyne.

However, in **North America** there is no coordination of efforts when it comes to verification programs. “No one is coming together to assess what

is the right way to do assessments,” says Dr. de Passillé. “Part of the problem is that things are fragmented, each producer group is doing their own thing. We have other groups developing animal welfare standards too, like the BC SPCA and the organic industry.”

Dr. de Passillé believes that North America needs to start developing its own animal care assessment strategy. **“It’s not that Europe is better, it’s that we need to take some leadership and develop something of our own.** We need to come together and develop common goals — why can’t we be doing this?” ■

## ON-FARM EUTHANASIA DECISION MAKING

# Should They Stay or Should They Go?

### One of the realities of livestock

**production** is on-farm euthanasia. All farmers face situations where animals, because of disease, injury or some other cause, must be humanely killed on-farm.

**Dr. Terry Whiting**, Manitoba Agriculture and Rural Initiatives, has been encouraging producers to establish a decision-making process to facilitate timely and humane on-farm killing. “Everyone has ‘punk’ animals and no one wants them. It costs money when decisions to cull on-farm are too late or delayed excessively.”

According to Dr. Whiting producers should identify critical control points that help them make the right decision at the right time. For example:

- Decide when to stop treating an animal if it is not responding (e.g., 14 days);
- Decide upon a point past which, if an animal is not meeting target requirements (e.g., weight), it is to be culled;
- Downers should automatically be killed on-farm.

“We need to kill unfit animals in a timely manner. Producers are responsible for ensuring animal welfare on the farm.” There are **six barriers to humane killing**, says Dr. Whiting:

- Faint hope of the animal recovering;
- Ignorance;
- Lack of empowerment (e.g., staff in larger systems);
- Lack of training and equipment;
- Shirking of duty (repugnance of killing);
- ‘Moral Food Conviction’ — an abhorrence of wasting an animal for use as food.

The technical details, or ‘how to’, of humane killing are well documented. However, operations standards (the when to, why to and who to) are less clear.

Dr. Whiting suggests **six operational criteria for on-farm euthanasia decision-making**.

1. Humane killing must be regarded as a standard veterinary treatment choice.
2. Clear decision trigger points need to be set.
3. Employees must be empowered to make euthanasia decisions.
4. Proper procedures, training and equipment must be available.
5. All involved must believe in the necessity and painlessness of euthanasia.
6. Ongoing evaluations are needed to ensure animal welfare is maintained.



“Producers and staff must believe it is the moral high road to euthanize in a timely manner. **We need to see what the animal is feeling to make a faith based decision on when an animal needs to be killed,**” says Dr. Whiting.

Prompt killing is sometimes the best decision. Larger operations would need a manual outlining specific directions for required outcomes - clear instructions with an expectation that standards are adhered to. “Make the hard decisions once, write them down, and follow through,” says Whiting. ■

## ACTIVE EUTHANASIA PLAN PAYS

*Financial and welfare implications of immediately euthanizing compromised nursery pigs*, Journal of Swine Health and Production, Volume 14, Number 1

The findings of Dr. W.E. Morgan Morrow, et al included:

- Some categories of compromised pigs (weak, lame [2 or more swollen joints, lame on at least one leg], and hernias) are associated with higher mortality levels, and thus should be euthanized immediately for humane and economic reasons.
- Pigs with prolapses, weakness, lameness, or two or more conditions endure poor welfare while providing very little financial value. Euthanizing such animals would improve the overall herd welfare, with minimal costs.
- The costs associated with caring for compromised animals (feed, medication, staff) can reduce their value considerably. Adding in the welfare costs to the animal makes the immediate euthanasia of some compromised animals a viable and humane option.

The article is available at [www.aasv.org](http://www.aasv.org).

## INEXPENSIVE, EASY-TO-USE ON-FARM STRATEGIES

# Farm Animal Pain Research

**Dr. Joseph Stookey is the lead researcher** of a study to address pain management in farmed animals. It looks at mitigating painful procedures in piglets and calves.

The study investigates using the sow as a vehicle to deliver pain medication to piglets. Researchers are assessing the transferability of pain medication from sow to piglet via the sow's milk. "This could be a very ergonomic way of delivering pain medication and preparing piglets for processing," says Dr. Stookey.

The calf study looks at the implications of lidocaine blocks. And, it looks at if the age of dehorning the calf influences

the memory of the procedure. To date findings show:

- Calves dehorned without painkillers at one month of age or younger do not seem to remember the procedure any more than calves dehorned using a lidocaine block.
- Strong behavioural evidence exists that unblocked calves experience extreme pain during hot-iron dehorning compared to blocked calves.

Lidocaine is inexpensive, less than 40 cents per calf, according to Dr. Stookey. "It is our hope that producers will work with their local veterinarians in learning how to administer a lidocaine nerve block prior to dehorning." ■

### Pain medications in livestock and food safety regulations ...

"Resolving animal welfare issues will be no different than resolving food safety, biosecurity, or environmental issues. We should not have to give up animal welfare concerns to provide safe food; that seems inherently wrong. I would like to believe that if we are successful in our research that industry will take the necessary steps to adopt the technology. To disallow such technology seems contrary to our commitment to high animal welfare standards, that the general public expects and our animals deserve." - Dr. Joseph Stookey, University of Saskatchewan



## SURVEY OF CANADIAN VETERINARIANS

# The Use of Pain Management in Livestock

### Researchers at the Atlantic Veterinary College in

Charlottetown, PEI are completing a national survey of Canadian veterinarians, to assess the use of painkillers in cattle, pigs, and horses. The goals are to determine:

- **The extent painkillers are used in these species;**
- **Why veterinarians do or do not use painkillers.**

Veterinarians across Canada were randomly selected to participate. Initial results indicate:

- ✓ Most veterinarians do not provide pain relief when castrating calves or piglets.
- ✓ Some veterinarians believe that pain management is not necessary when

using an elastrator, or with procedures involving young animals.

- ✓ Veterinarians almost universally use pain control when dehorning calves and for major surgeries (e.g., caesarian sections).
- ✓ Veterinarians are more likely to treat lame sows with pain relievers than lame cows.
- ✓ Veterinarians feel there is a need for long-acting, affordable painkillers for farm animals.
- ✓ Veterinarians feel that the long, or unknown, withdrawal periods for some painkillers hinder their usage in food production animals.

Lead researcher **Dr. Caroline Hewson** says, "The knowledge of pain and the pain pathways is developing very quickly.

We now know that old assumptions, such as that farm animals are stoical, or that routine surgical procedures don't hurt much, are not borne out by the physiology."

However, difficulties exist with the regulation of drugs for use in farm animals, and the unavailability of suitable drugs for some species. "Farmers and veterinarians are being put in a difficult position when it comes to relieving pain in livestock. A solution is badly needed, one which includes the constructive engagement of consumers; a strong commitment by government, drug companies, and the veterinary profession; and continuing education of veterinarians and farmers," says Dr. Hewson. ■

# Humane Alternative Developed for Rabbit Stunning

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) and the University of Guelph have developed an effective, economical and humane device, called the Zephyr, for stunning rabbits at processing plants. The Zephyr is based on a pneumatic stun gun brought to them by Canadian Farm Animal Care Trust (CanFACT) from the United Kingdom. The UK model was modified and tested by OMAFRA, and is now in use at a number of abattoirs.

The Zephyr Stun gun uses a compressed air driven, non-penetrating captive bolt to humanely and effectively stun rabbits of all weights and sizes.

Tom Hughes, CanFACT President, ordered several of the guns, and is prepared to loan them to any government department willing to demonstrate and promote their use in rabbit abattoirs. Alberta Agriculture Food and Rural Development took up the offer, testing the Zephyr gun in Alberta provincial plants. The Alberta Meat Inspection, Regulatory Services Branch intends to purchase four guns and provide them to plants as needed.

This device was distributed by the Ontario Farm Animal Council (OFAC) to abattoirs across Ontario in 2005 to enable them to meet new Meat Regulations prohibiting the use of blunt trauma to stun rabbits in Ontario. Abattoir owners could apply for a refund of 50% of the value of the Zephyr from OMAFRA.



*Zephyr Pneumatic Stun Gun*

Look for more information on the Zephyr, as further research is underway on piglets.

OFAC - [www.ofac.org](http://www.ofac.org)  
CanFACT - [www.canfact.ca](http://www.canfact.ca)

## INAUGURAL MEETING

# National Farm Animal Care Council

The inaugural meeting of the National Farm Animal Care Council (NFACC), held August 11-12, 2005, brought together representatives from a broad spectrum of groups interested in farm animal care in Canada.

NFACC's vision is *a national coordinated approach promoting responsible farm animal care.*

Each representative offered their perspectives on animal care and insights as to the role of NFACC. Some common points were:

- Animal care is a multi-jurisdictional, whole supply chain issue of growing importance;
- Each group has been addressing animal care individually, but there is value in working together on common issues and shared goals;
- A forum for communications is needed.

The first Chair of NFACC is Gordon Coukell, representative for Dairy Farmers of Canada. Other NFACC members represent the beef, pork, cervid, bison, sheep and equine industries, the humane movement, research/academia, provincial and federal governments, meat and poultry processors, veterinarians, restaurant and retail food services and provincial farm animal care groups.



Initial funding for NFACC is from the Advancing Canadian Agriculture and Agri-Food (ACAAF) program, with the Canadian Animal Health Coalition providing secretariat services. ■

# The Welfare Quality Project

The European Union (EU) launched a Welfare Quality (WQ) Project in May 2004.

The five-year project is to provide practical science based tools and strategies to improve the welfare of farm animals.

Thirty-nine institutes and universities from 13 countries are involved, with a total budget of 17 million Euros (about \$23.5 million CAD).

The objectives of the project are to:

- 1) develop practical strategies to improve animal welfare;
- 2) develop a European on-farm welfare assessment standard;
- 3) integrate the most appropriate expertise in the multidisciplinary field of animal welfare in Europe.

A number of research projects are underway including:

- Extensive consumer and producer surveys;
- Market assessments;
- Initial development of animal welfare monitoring systems.

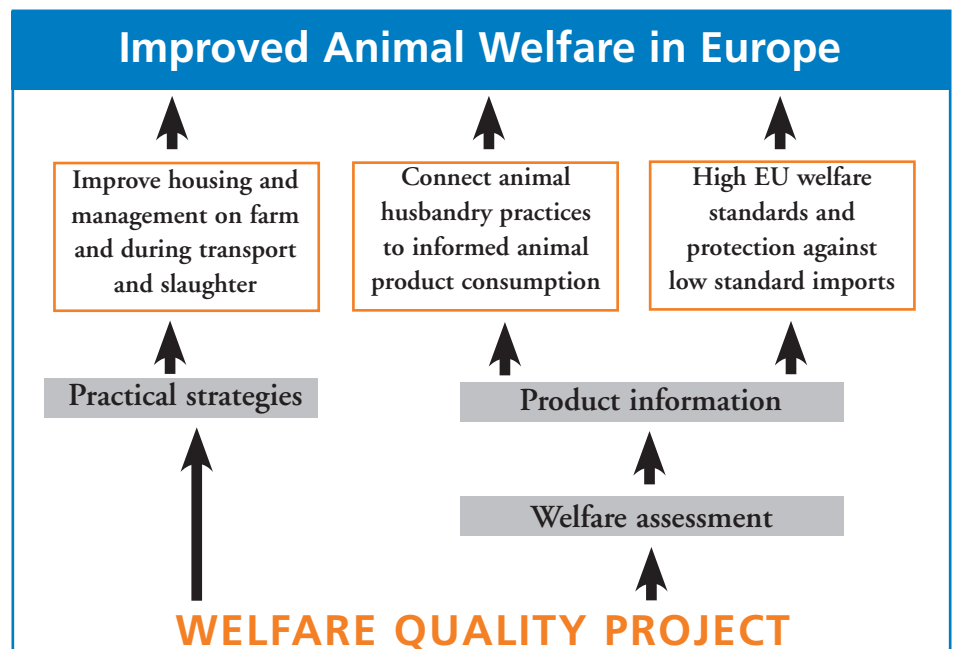
Initial research results were reported during a November 2005 conference in Brussels. Conference proceedings and more information on the WQ project are available at [www.welfarequality.net](http://www.welfarequality.net). Points of interest are:

- Consumer surveys/focus groups indicate that while consumers believe that farm animal welfare is an important issue:
  - They admit to a lack of knowledge on the subject;
  - “A significant portion of consumers deliberately avoid expanding their knowledge on farming practices and animal welfare in a desire to distance themselves from ethically challenging issues”.
- WQ will focus on animal-based measures (e.g., health and behaviour) for welfare assessments. Resource (e.g., access to food) or management (e.g., cage size, flooring) based measures will be used in a secondary fashion to identify the causes of, and solutions to, a welfare problem. For example, lameness (animal-based measure) may indicate a need for improved hoof care or flooring (management measures).



- Despite compliance with rigorous resource-based standards, welfare problems like lameness are still high on RSPCA Freedom Food assured dairy farms.
- WQ project is looking at genetic solutions to welfare problems.
- There are multiple mentions of links between animal welfare and food quality/food safety.
- **One of the end goals of the WQ project is to develop a ‘welfare friendly label.’**
- The President of the European Dairy Farmers says, “the problem is that the consumers demand for cheap food has created a pressure to develop more efficient and competitive production systems. This pressure, exerted by consumers, retailers and politicians, has, at times, become so intense that it has led to production systems that have gone beyond a sense of animal welfare.” He points to retailers and buyers as the key persons to take “economic responsibility to fulfill the demands of good animal welfare in the products they buy and present to the consumer.” ■

Welfare Quality Project - [www.welfarequality.net](http://www.welfarequality.net)



The Welfare Quality project supports three routes to improve animal welfare

# Foraging and Feather Pecking in Laying Hens

**Gentle feather pecking by poultry** is a normal component of their social behaviour. However, feather pecking by modern laying hens sometimes escalates. Birds plucking feathers from their cage mates leads to feather loss. It may reduce overall production efficiency and cause pain and injury and may lead to cannibalism and death.

Pecking is a very fixed component of poultry behaviour. Red Jungle Fowl, the ancestors of modern laying hens, evolved spending a large proportion of their time pecking at the ground, foraging for food. By comparison, the modern laying hen is provided a nutritionally balanced diet, that is consumed with far less foraging activity. Birds are motivated to forage and peck. One hypothesis is that hens may redirect their pecking, resulting in injurious pecking.

Researchers at the University of Saskatchewan, lead by Dr. Hank Classen and Sarah Johannson, are exploring ways to

reduce feather-pecking by allowing hens to engage in more foraging behaviour.

In a recent trial they discovered that **hens provided free access to barley silage** (along with the standard layer-diet) **performed half as much aggressive feather pecking as birds fed by current industry standards.** Egg production, egg quality and weight gain were the same for both groups of birds in their study. Birds fed silage had improved overall feather condition at the end of the trial as a result of their decreased feather pecking behaviour.

Modern feeding practices may be contributing to the problem of feather pecking. This research may be offered as a potential feed aid.

For information contact Dr. Classen at (306) 966-6600. ■



## Research Priorities

**In 2005 the Expert Committee on Farm Animal Welfare and Behaviour** (ECFAWB) completed a review of farm animal welfare research priorities.

Five key priority areas are:

- **Transportation** – acceptable times in transit based on Canadian climatic conditions, appropriate resting times, improving vehicle design, stocking densities.
- **Pain** – increased understanding of the pain associated with lameness, invasive procedures, poor health.
- **Production methods** – impact of reduced antibiotic use, impact of feed withdrawal / restriction, using feeding behaviour to improve management, feasible alternatives to invasive procedures.
- **Housing** – development of sustainable (economically, socially) housing systems, appropriate stocking densities, physical attributes of desirable housing.
- **General** – improvements in pre-slaughter management, production methods for non-traditional species, relationship between handler training (or lack thereof) and animal welfare.

For a list of animal welfare / behaviour research, see [www.livestockwelfare.com](http://www.livestockwelfare.com). ■

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## Putting Farm Animal Welfare on the Agenda.

Public concern and interest in farm animal welfare continue to grow. There is some excellent work being done to improve farm animal care. Our challenge is to communicate that information to where it's needed, from farmers to consumers and everyone in between.

This publication is part of the new *Putting Farm Animal Welfare on the Agenda* project — a team effort to increase communications about farm animal welfare across the country. Funding for this project was provided in part through Agriculture and Agri-Food Canada's Advancing Canadian Agriculture and Agri-Food Program. This is a collective outcome partnership with the Agricultural Adaptation Council in Ontario, the Manitoba Rural Adaptation Council, the Saskatchewan Council for Community Development and the Alberta Agriculture and Food Council.