Provincial Agricultural Service Board Committee

Report Card on Government and Non-Government Responses to the 2011 Provincial ASB Resolutions

November 2011

Introduction

The Agricultural Service Board (ASB) Provincial Committee is pleased to provide ASB members and staff with the Report Card on Government and Non-Government Responses to the 2011 Provincial ASB Resolutions. This document includes the Whereas and Therefore Be It Resolved sections from each of the resolutions passed at the 2011 Provincial ASB Conference, the associated responses and a tentative grade for each response as assigned by the Committee. Comments from the Committee are also included with the grade assigned.

There are four response grades that can be assigned to a resolution response: Accept the Response; Accept in Principle, Incomplete and Unsatisfactory. The grade assigned relates to the quality of the response to the resolution. A definition of what each grade means is included as part of the Report Card. This report also summarizes actions undertaken by the Provincial ASB Committee and provides updates associated with resolution issues.

Please note that the grades assigned by the Committee are intended to provide further direction on future activities or follow up with respondents. If you would like to comment on the assigned grade or follow up activities, please contact your Provincial ASB Committee Representative.

The ASB Provincial Committee consists of five regional representatives, a representative from the Alberta Association of Agricultural Fieldman (AAAF) as recording secretary, a representative from the Alberta Association of Municipal Districts and Counties (AAMD&C) and the ASB Program Supervisor from Alberta Agriculture and Rural Development (ARD). The members for 2010/2011 were:

Regional Representatives	**Alternate**
Patrick Gordeyko, Chair, Northeast Region	Daniel Warawa
Mary Ann Eckstrom, Vice-Chair, Peace Region	Donald Dumont
Garry Lentz, South Region	Henry Doeve
Joe Gendre, Central Region	Jim Duncan
Lloyd Giebelhaus, Northwest Region	Darrell Hollands

Other Representatives

Soren Odegard, AAMD&C
Geoff Thompson, Recording Secretary/1st VP, AAAF
Maureen Vadnais, Acting Supervisor, ASB Program, ARD

The ASB Provincial Committee met four times over the past year, including one meeting with the Minister of Agriculture and Rural Development, Jack Hayden. The Committee typically meets with the Minister two times per year but was not able to have its second meeting with Minister Hayden this year because of issues that arose in the Minister's riding during the summer. The Committee is appreciative of the support provided by Minister Hayden and is looking forward to meeting with the new Minister of Agriculture, the Honourable Evan Berger, in the near future.

The Committee would like to remind the ASB members of the new website developed by the ASB Program Staff for ASB members. The address of the new website is: www.agriculture.alberta.ca/asb and it is intended to be a resource and forum for sharing ideas. Information about resolutions from 1998 to present, member information, legislation, unique programs and an orientation manual for new members are some examples of information that ASB members may access at this website. Special thanks goes to Pam Retzloff for her contribution in designing the website and ensuring the information is maintained and updated frequently.

The Committee would also like to acknowledge the contribution of Eileen Chauvet, ASB Program Supervisor, to the ASB Program. Eileen lost her battle to cancer in October and will be greatly missed. Eileen was dedicated to the ASB Program and accomplished many things in her short tenure as the ASB Program Supervisor.

Patrick Gordeyko
Chair, ASB Provincial Committee
November 2011

Definition of Terms

The Provincial Agricultural Service Board (ASB) Committee has chosen four indicators with which to grade resolution responses offered by government and non-government organizations.

Accept the Response
A response that has been accepted is one that addresses the resolution as presented or meets the expectations of the Provincial ASB Committee.

Accept in Principle
A response that has been accepted in principle is one that addresses the resolution in part or contains information, which indicates further action is being considered.

Incomplete
A response that is graded as incomplete is one that has not provided enough information or does not completely address the resolution. Follow up is required to solicit the information required for the Provincial ASB Committee to make an informed decision on how to proceed.

Unsatisfactory
A response that is graded as unsatisfactory is one that does not address the resolution as presented or does not meet the expectations of the Provincial ASB Committee.

Executive Summary

Grading given by the Provincial ASB Committee to Government and Non-Government Organizations response to resolutions passed at the 2011 Provincial ASB Conference.

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Agricultural Service Board Funding

WHEREAS the Agricultural Service Board budget has been frozen at $10.5 million since 2005

WHEREAS in the past, there have been significant periods of time between provincial Agricultural Service Board Program budget increases

WHEREAS large increases in funding at a single time are too disruptive to each Agricultural Service Board's individual budgeting

WHEREAS the Agricultural Service Board program expenses steadily increase annually

WHEREAS during the 2004-2005 program review, it was recommended that another review be completed in 2010

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
an annual prorated increase in budget that will reflect the costs of services and responsibility for programs that are provided by Agricultural Service Boards, determined by review of program expenses between 2005 and 2010.

Status: Provincial

The Agricultural Service Boards' (ASBs) request to have an annual, prorated increase to reflect the costs of services and responsibilities provided by ASBs is not likely to occur given the current fiscal reality in Alberta. Alberta is currently in the process of trying to balance its budget and it is not likely that the ASB Grant will receive any increases to its budget until the provincial budget is balanced. It is expected that the provincial budget will be balanced in 2014.

The ASB Grant budget is currently $12.2 million and it is expected it will remain static until 2014 which will be the last year of the current three year cycle for the ASB Grant. The program staff are planning to start a comprehensive review of the program and budget in 2012-13 to gather information, in addition to program expense information collected between 2005 to 2010, to present a complete picture of the need for additional funding for the ASB Grant. An annual, prorated increase could be part of the information presented to help the ASB Grant obtain funding that is more responsive to the needs of Agricultural Service Boards.

Department: Agriculture and Rural Development

Alberta Agriculture and Rural Development

Alberta Agriculture and Rural Development recognizes the significant contribution that ASBs make to the rural landscape of Alberta and is grateful for our partnership with the ASBs throughout the province.

Provincial ASB Committee Grade: Accept in Principle

Provincial ASB Committee Comments:

The Committee recommends that the ASB Program be entirely reviewed starting in 2012 with the review to be completed by 2013. The recommended review of the ASB Program for 2010 was delayed when the ASB and Alberta Environmentally Sustainable Agriculture (AESA) grants were merged as part of the Grant Re-engineering Initiative by Municipal Affairs. The ASBs understood that the new ASB Grant Program would be entirely reviewed one year after the implementation of the new ASB Grant Program and are expecting a complete program review to start in 2012.

Alberta Agriculture and Rural Development (ARD) program staff are currently in the process of seeking approval to move forward on a program evaluation for 2012. If approved, the intent is to start consulting with ASBs in early 2012 and have the evaluation completed in early 2013.

Eradicable Weeds Funding

WHEREAS The new *Weed Control Act Regulations* has a considerable list of new Prohibited Noxious weed species, which Agricultural Service Boards legally are responsible to see eradicated

WHEREAS An eradication approach of new and emerging weed species provides the best return on investment by municipal weed control authorities

WHEREAS Municipal Eradication Programs providing landowners with free eradication services of new species is a cost effective and rewarding way of reporting of new infestations for the purposes of rapid response

WHEREAS It is in the best interest of the province to collaborate with Agricultural Service Boards in their efforts to ensure Weed Control Act compliance and to prevent new invasive plants species, impacting agriculture and the environment, becoming widespread; and

WHEREAS A non-regulatory approach to eradication of Prohibited Noxious weeds guarantees a higher level of success

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the Agricultural Service Board Grant provide funds for Prohibited Noxious weed eradication on a 100% provincial funding basis outside of existing and current board funding

Status: Provincial

Department: Agriculture and Rural Development

Alberta Agriculture and Rural Development

An eradicable weeds fund is a unique approach that could have significant impact on controlling Prohibited Noxious weeds within the province of Alberta, and we are currently investigating the possibility of establishing such a program.

Alberta Agriculture and Rural Development (ARD) feels it would be a good fit with the surveillance initiatives that we are trying to establish. This would be a key component in assisting us to determine where prohibited noxious weed species are located and provide for an early detection rapid response program. Consultation has started with members of the Alberta Association of Agricultural Fieldmen to determine what a program would look like and how much funding would be required. One key component of addressing this issue is to determine how much of an infestation of prohibited noxious weeds there currently is in the province. We are requesting that the Agricultural Service Boards (ASB) participate with Chris Neeser in conducting a survey to look at prohibited noxious weed species densities.

The background information you provided from the State of Victoria, Australia, shows a drastic reduction in weed populations with this approach. Potentially this could be a cost effective and preferred strategy for the province and something that is seriously being considered by ARD.

An ASB Grant to provide funds for controlling Prohibited Noxious Weeds will be one of the options for consideration when formulating a strategy. Alternate means of assisting municipalities facing undue hardship with Prohibited Noxious weeds will be investigated in more detail.

The process of collecting data and seeking stakeholders input can take several months to finalize. We do not anticipate funding for this program in 2011 but money may be available for the 2012 season.

Provincial ASB Committee Grade: Accept in Principle

Provincial ASB Committee Comments:

The Committee supports the concept of an eradicable weed fund but stipulates that any money for a fund such as this must be new dollars and not dollars taken from the existing ASB Grant Fund. The Committee is aware that ARD is currently working with municipalities to start a pilot project to prove this concept is viable and is supportive of ARD investigating and moving ahead with this project. ARD has consulted with municipalities impacted by orange and yellow hawkweed to discuss the extent of the infestations and determine how to move forward to manage these infestations. The outcome of this consultation was that a pilot project should be developed for a three year time period to assist municipalities and private landowners to eradicate these species. The recommendation is for ARD to provide $150,000 per year for three years to pay for herbicide that would be provided to private landowners to eradicate these species. Landowners and municipalities would contribute labour and equipment to apply the herbicide to eradicate these species.

The ASB Program is currently working with Pest Surveillance Branch (PSB) to develop this proposal more fully and to request funds for this pilot project. Sustainable Resource Development (SRD) is also interested in working with ARD to expand this project onto Public Lands and may have some funding to commit to a pilot project of this nature.

Mitigating the Effects of Agricultural Disaster Years on Crop Insurance Levels and Premiums

WHEREAS The Peace Region has been in various states of disaster the past three years

WHEREAS Crop insurance coverage levels are calculated using producer and area averages

WHEREAS If a producer has a claim, production coverage drops and/or premiums rise

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that in a Provincially declared Agricultural Disaster year, any crop insurance claims will not affect a producer's coverage level or increase his/her premium.

DEFEATED AT THE 2011 ASB PROVINCIAL CONFERENCE

Monitoring of Groundwater Wells

WHEREAS The NRCB has recently relaxed the requirements of groundwater testing around confined feedlots and liquid manure storage since they feel they pose a low risk of contamination

WHEREAS Previously, the NRCB required confined feedlots to test groundwater wells annually by an independent qualified firm, they have now changed this process and in most cases since they feel the contamination is so low they now only require a self-monitoring process

WHEREAS Self-monitoring of groundwater wells at these confined feedlots is not a viable option because the risk of this process not being completed is elevated

WHEREAS Since 2002, when the NRCB took over control of the approval and regulation process of confined feeding operations there have been numerous concerns with environmental issues from the ratepayers and municipalities

WHEREAS Contamination of manure into the groundwater can have a detrimental effect to not only the confined feeding operation, but also to many neighboring farms and dwellings with long term consequences

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTRUAL SERVICE BOARDS REQUEST
that the NRCB require that mandatory annual testing of groundwater wells surrounding confined feeding operations by an independent qualified firm continue to ensure that there is no risk of contamination.

Status: Provincial

Department: Natural Resources Conservation Board (NRCB)

Natural Resources Conservation Board
In 2008 the Natural Resources Conservation Board (NRCB) collaborated with experts in agriculture and groundwater from Alberta Environment (AENV), Agriculture and Rural Development (ARD) and the confined feeding industry to develop an environmental risk screening tool (ERST). The tool is used by NRCB staff to provide science based risk assessments at confined feeding operations. It was developed under the auspices of the risk management framework, which was endorsed in 2007 by the Policy Advisory Group (PAG), a multi-stakeholder advisory group to the NRCB and ARD.

PAG membership includes:

- Alberta Association of Municipal Districts and Counties

- Alberta Urban Municipalities Association
- Representatives from the confined feeding industry
- Environmental non-government organizations
- Alberta Agriculture and Rural Development
- Alberta Environment

Between 2008 and 2010 the ERST was employed at the 257 confined feeding operations (CFOs) on the NRCB's data base that had groundwater monitoring requirements in their permit conditions. The risk screenings were conducted as part of the NRCBs leak detection project. The objectives of the project were to confirm the environmental risk at each site, using a consistent, science-based approach, and to ensure that groundwater monitoring requirements were appropriate for the actual risk at each site. The NRCB extensively consulted and communicated with PAG, municipalities and industry on the design and implementation of the project. Feedback from the consultations was positive and supported using science based risk screening for all operations with groundwater monitoring requirements.

Most of the 257 operations existed before the Agricultural Operation Practices Act (AOPA) came into effect on January 1, 2002, and had development permits issued by municipalities. By conducting the risk screenings the NRCB found that monitoring and reporting requirements for the facilities did not necessarily reflect the risk, and in some cases the requirements were not being followed.

The ERST risk ratings are based on facility construction as well as natural features including soil, bedrock, aquifer levels, and pathways that could move contaminants into groundwater. A low risk rating is given only to facilities where it is clear that groundwater resources are protected from contamination.

The NRCB is amending the permits to ensure that the monitoring frequency is based on the risk posed by the facility. Monitoring requirements of the low risk facilities are being suspended. Moderate and high risk facilities must continue to monitor. Some high risk facilities are being required to increase the frequency of their monitoring and to address the identified risk.

The NRCB is working with the operators and consulting with municipalities on the permit amendments. Operators whose facilities were ranked low risk have the option of applying to have their monitoring condition removed from their permit. This option requires full public notification and allows directly affected parties, including municipalities, to comment on the proposed amendment. A few operators are choosing to apply for the amendment. In most cases, the NRCB is modifying the monitoring conditions so they can be more easily adjusted in the future to reflect any changes in the risk assessment of the site.

Note that the NRCB, under the leak detection program, also implemented a policy change which requires all monitoring to be done by qualified independent contractors.

The act sets out the standards and regulations for environmental protection but does not require groundwater monitoring at all CFOs. The act states:

18(1) Standards and Administration Regulation

"If an approval officer considers that there is risk to the environment, the approval officer may require the owner or operator of a liquid manure storage facility to install and maintain a leakage detection system for the liquid manure storage facility consisting of at least one monitoring well up gradient of the facility and at least 2 monitoring wells down gradient from the facility of a type appropriate to determine whether there are leaks.

(2) "As determined by an approval officers or the Board, the owner or operator of a liquid manure storage facility must monitor the monitoring wells installed under subsection (1) at regular intervals to detect contamination from the facility."

The act requires the NRCB to ensure that CFOs are in compliance with AOPA requirements and their permit conditions. The NRCB is also obligated to ensure that sections 18(1) and (2) of the standards and regulations are met, as appropriate, when considering applications.

However, the NRCB is not in the position to unilaterally require CFO operators to take actions such as implementing a groundwater monitoring program that are not required by the act. Monitoring requirements need to be justified by evidence that there is a risk to groundwater resources at the site. The NRCBs use of the ERST provides objective and scientific assessments that allow the NRCB to make consistent and appropriate judgements on the need for groundwater monitoring at confined feeding operations.

Provincial ASB Committee Grade: Accept in Principle

Provincial ASB Committee Comments:

The NRCB's response was graded as Accept in Principle because the response indicated a change in policy and that the leak detection program requires that all monitoring is conducted by qualified independent contractors. The Committee remains concerned about the groundwater monitoring requirements as the response indicates that Confined Feeding Operations (CFOs) do have the ability to amend the groundwater monitoring requirements on their permits, including, in some instances, the removal of the groundwater monitoring conditions from their permits. The Committee understands that the removal or lessening of monitoring conditions is based on an Environmental Risk Screening Tool (ERST) and in consultation with the public but still feels that groundwater monitoring should continue to be a condition on a CFO's permit to operate.

Environmental Regulations on Crown Land

WHEREAS for generations farmers and ranchers have been the stewards of the land, protecting and when possible enhancing productivity and sustainability

WHEREAS cross fences, corrals and offsite watering systems are installed with the intention of better utilizing and protecting grass resources

WHEREAS all of these improvements are normal, accepted farming and ranching practises, used to enhance grazing management

WHEREAS the costs incurred by farmers and ranchers to meet the requirements of new regulations and standards are adding to the financial burden facing primary agricultural producers

WHEREAS farmers and ranchers have no method by which to recover any of the money spent on environmental assessments and surveys

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the provincial government exempt farmers and ranchers from the requirement to do environmental assessments before proceeding with projects meant to enhance the productivity and sustainability of Crown Grazing Land, such as installing cross fences, corrals and off site watering systems.

Status: Provincial

Departments: Sustainable Resource Development
Alberta Environment

Sustainable Resource Development

The department recently met with grazing leaseholders and livestock industry representatives to review its requirement for preconstruction wildlife surveys. As a result of this review, surveys are now required only for land in the Grasslands Natural Region/Prairies Area of the province where the majority of species at risk are found. As well, wildlife surveys and/or restricted activity periods are only requested for specific types of development, such as permanent fences and watering systems.

Under the new system, department staff consult with an applicant to assess their application to determine if a survey or timing restriction is required. Grazing leaseholders and livestock industry representatives have agreed to this process, which also allows the applicant to request a review of the requirement for a wildlife survey. Wildlife surveys and restricted activity periods are not required for

livestock redistribution, temporary fencing and watering systems, or for routine maintenance of existing structures.

When it is determined that a preconstruction wildlife survey is required, applicants must obtain these services from a qualified biologist and report the survey results to the department. Prior to issuing a disposition, Sustainable Resource Development analyzes the survey results to determine if mitigation strategies are required. For example, the timing of construction may be adjusted to minimize its impact on wildlife. Landholders are responsible for meeting requirements for designated threatened or endangered species under Alberta's Wildlife Act, the Migratory Birds Convention Act and the federal government's Species at Risk Act.

Alberta Environment

The Environmental Protection and Enhancement Act does not require environmental assessments before proceeding with projects meant to enhance the productivity and sustainability of Crown Grazing Land, as described in Resolution No. 5.

I trust that Alberta Sustainable Resource Development will outline requirements and opportunities under their legislation and regulations for assessments on Crown Grazing Land.

Provincial ASB Committee Grade: Accept the Response

Provincial ASB Committee Comments:

The response given by Sustainable Resource Development (SRD) indicates that they have reviewed their process and a new system has been developed regarding requiring preconstruction surveys. The new system only requires surveys to be completed in the Grasslands Natural and Prairies Regions of the Province as these two areas contain the majority of Species at Risk (SAR) in the Province. The Committee felt that SRD was trying to work with producers to accommodate their needs as well as mitigate the impact of development on wildlife with this new process.

BSE Class Action Lawsuit

WHEREAS There has been ongoing hardship caused to the Cattle Farmers of Canada as the result of the BSE crisis

WHEREAS The immediate closing of borders across the industrialized world to Canadian cattle and beef products, sent cattle prices to spiral downward

WHEREAS Statistics Canada reported that there are 23,000 fewer farms reporting cattle today than May 20, 2003

WHEREAS A class action lawsuit on behalf of the cattle producers of Canada was launched in April of 2005, claiming the negligence on the part of Agriculture Canada allowing BSE from imported British cattle to infect Canadian cattle (BSE Class Action). This class action has now been certified and is proceeding to trial

WHEREAS The Government of Canada settled the Hepatitis C Class Action and the Government of Canada settled the residential schools class actions. The BSE Class Action represents the interest of 135,000 hardworking Canadian Farm Families

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the Government of Canada appoint a mediator to facilitate Settlement between the Government of Canada and the cattle farmers.

Status: Federal

Department: Federal Minister of Justice
Federal Minister of Agriculture

Department of Justice Canada

As you are aware, a national class action has been certified and is currently proceeding before the Superior Court of Justice of Ontario. The allegations in this action, including negligence and misfeasance in public office, are serious and have yet to be substantiated. This class action raises legal issues that are important to the Government of Canada not just in this case but in others that involve questions of Crown liability.

I note that the ASBs resolution requests the appointment of a mediator to facilitate settlement of the class action. I am confident that counsel in the Department of Justice Canada will give due consideration to mediation or arbitration at appropriate stages in the litigation process. This decision will be made in consultation with the departments and agencies involved in the litigation.

Under the circumstances, I hope you will understand that it would not be appropriate for me to comment further.

Agriculture and Agri-Food Canada

As outlined in your letter, Resolution No. 6: BSE Class Action Lawsuit is a matter that falls under the responsibility of my colleague Mr. Myles Kirvan, Deputy Minister of Justice Canada. As such, I will let him respond to this particular issue.

Provincial ASB Committee Grade: Accept in Principle

Provincial ASB Committee Comments:

The Committee felt that this response should receive a grade of Accept in Principle because of the sentence in the response that says: "The allegations in this action, including negligence and misfeasance in public office, are serious and have yet to be substantiated." The Committee understands that the Department of Justice Canada cannot comment on legal action that has not yet been substantiated and will continue to monitor and follow up with the Department of Justice Canada as this case makes its way through the court system.

Disposal of Agricultural Plastics

WHEREAS The use of plastics for forage and grain storage has increased during the past few years

WHEREAS This plastic is usually useful for only one year

WHEREAS Practical options for the responsible disposal of this plastic through incineration or waste management infrastructure are limited

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
Alberta Agriculture and Rural Development and Alberta Environment to research and to then implement practical and environmentally responsible options for the disposal of plastics used for forage (twine or bale wrap) and grain (grain bag) storage.

Status: Provincial

Department: Alberta Agriculture and Rural Development
Alberta Environment

Alberta Environment

Alberta Environment, along with a staff representative from Alberta Agriculture and Rural Development, is a member of the Recycling Council of Alberta's Agricultural Plastics Working Group. This group also includes participation from the Alberta Plastics Recycling Association, plastic manufacturers and recyclers, retailers and local waste commissions.

An estimated 8,000 tonnes of agricultural plastics (baler twine, bale wrap, silage wrap and feed bags) is used in Alberta each year. This number is expected to grow as the use of grain storage bags expands. Since 2007, the Working Group's efforts have focused on identifying long-term, environmentally sustainable solutions for recycling agricultural plastics in Alberta.

Through research and pilot programs, the Working Group has made progress on identifying the amount of agricultural plastic materials available to recycle in Alberta, learning more about on-farm material handling options (for example, separating plastics by type, minimizing contamination) and potential end-markets for recycling the materials. From this work, some promising developments have emerged including, identifying a local recycler in southern Alberta that accepts polyethylene sheet plastic and exploring a potential market opportunity for recycling polypropylene baler twine in the United States.

Further information on the progress of the Working Group's activities can be obtained by contacting Alberta Environment's Working Group representative, Dave Whitfield at dave.whitfield@gov.ab.ca or 403-297-8255.

Alberta Agriculture and Rural Development

The recycling of agriculture wastes falls under the leadership of Alberta Environment. There currently exists a working group researching options for recycling agricultural plastics. Alberta Agriculture and Rural Development (ARD) supports this initiative and will continue to provide technical support to the associated pilot projects.

Background:

In 2007, the Recycling Council of Alberta established a working group with representatives from the Alberta Plastics Recycling Association, the plastic manufacturing sector, retailers, recycling project operators, ARD, Alberta Environment, and recyclers to look at options for agricultural plastic waste. Shipment to China for recycling is done currently with small volumes, however, this should not be seen as a long term solution, as agricultural contaminants like manure or feed can spread plant or animal disease or introduce new species.

As part of its research efforts, the working group established a pilot project on recycling of agricultural plastics. Contact the ASB Program office for copies of the Ag Plastics Pilot report.

The Pilot Project:

Short-term collection programs for baler twine and silage plastic were established in the Lethbridge and St. Paul / Smoky Lake areas, as well as continuation of work already underway in Mountain View County.

A second component of the trial addressed handling and processing of the material in preparation for shipment to a recycler. The product was baled at public or private recycling facilities in the collection area; however this entailed significant manual handling for transport to the central location from collection sites.

Used plastic is a low value substance which recyclers view as a potential resource, but are uncertain of their ability to process and the cost to do so. Washing equipment for processing large volumes of used plastic is not available locally; freight to Vancouver is a cost factor and capacity there is limited. All recyclers wanted the plastic delivered to their sites at no cost to them. Purity of the resin type is also a concern for true recycling as impurities decrease the value significantly. Since the pilot was completed, a potential market for agricultural film has emerged in Southern Alberta. This market currently accepts film at its door with no compensation, and can handle the level of contamination present in this material.

A program to establish an economic incentive for recycling throughout an economic cycle is required. This should cover costs of transport, handling and perhaps some processing at times of low resin value but may create an income stream at times of high resin value. This may take the form of a recycling charge at time of purchase as with other Alberta stewardship programs.

A farm-plastic recycling program is going to be a reality in the near future. The Agricultural Service Boards could play a critical role once the program is operational by providing communications to the

producers about the importance of recycling and proper procedures. Not all plastics can be recycled together; farm plastics will have to be sorted by resin type, or will be rejected.

Provincial ASB Committee Grade: Accept in Principle

Provincial ASB Committee Comments:

The Committee was pleased to learn that there were pilot projects already in place to address these concerns. The Committee requested that the findings from the pilot projects be added to this report card. The final report with findings from the pilot projects is attached in the Appendix.

Enforcement of Clubroot Infestations

WHEREAS Clubroot was added to the Agricultural Pest Act as an enforceable disease in 2007

WHEREAS The Provincial Clubroot Management Plan suggests control measures including crop rotations for the disease

WHEREAS Municipalities may choose not to enforce the Act and Regulations due to lack of direction from Alberta Agriculture and Rural Development

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that Alberta Agriculture and Rural Development, implement specific and consistent guidelines across the province of Alberta that outline how municipalities are to enforce the Agricultural Pest Act and Regulation's in accordance with the Provincial Clubroot management plan.

Status: Provincial

Department: Alberta Agriculture and Rural Development

Alberta Agriculture and Rural Development

Should municipalities still be enforcing the 1 in 4 year rotation when a resistant variety is grown? As you are aware, there are many strains of the clubroot pathogen, and no single variety has been documented to be resistant to all strains. The half life of clubroot is four years and in areas where a four year rotation has been implemented, it has reduced the rate of new infestations and canola yield losses. Without the four year rotation, a resistant clubroot strain would dominate the field in a few years. Although arguments can be made for rotation breaks other than four years, we have carefully considered European recommendations that were based on much more experience with this disease. Currently there is no way of finding out which resistance source was bred into the clubroot resistant variety to be planted, and thus we cannot determine how to rotate varieties to prevent the build up of the clubroot disease. Although research underway may provide details of resistance being commercialized in varieties, it will still be prudent to reduce the risk of resistance breakdown by extending the break from canola on infested fields.

How to control infected volunteer canola? Control of volunteer canola in infested fields must be done before 3-4 weeks of growth to prevent production of new resting spores. To control volunteer canola in fields, herbicide rotation needs to be implemented since most canola planted now is one of three herbicide tolerant systems. It is important to keep records of previous canola grown and the herbicide tolerance in the variety. For example, if the previous crop was Roundup Ready, then the next canola variety planted should be Liberty tolerant to enable control of any Roundup Ready volunteers. With a four year rotation and cereal used as an alternate crop, it is relatively easy to control broadleaf weeds

such as canola. In the situation where Clearfield tolerant canola was the previous crop, then the herbicide application in the cereal crop should include a phenoxy.

Implementing consistent guidelines: Clubroot is a new disease to Alberta canola producers and was only discovered in 2003 in a field near Edmonton. Since then, the disease has spread to municipalities around the Edmonton area. Other parts of the province are still relatively free of the disease and would like to keep it that way.

As you mentioned in Resolution #8, clubroot was added to the Agricultural Pest Act as a declared pest in 2007. Since then, a management plan and other guidelines have been written to assist municipalities with the control of clubroot. The Management Plan has been recently revised, but the guidelines have become outdated in some aspects and need to be reviewed and updated. As a result, the current guidelines will be revised and distributed to municipalities by April 30, 2011.

Enforcement of the Act has been delegated to the municipalities to control clubroot and other pests. Each municipality has its unique pest problems and often unique ways of dealing with such pests. Government specialists and pathologists have provided good advice to municipalities in the various guidelines, but each municipality may have other considerations that support modifying the control measures. While consistency is highly desired, we also recognize and respect the individual circumstances of each municipality.

Since clubroot is a relatively new pest in Alberta, more research is being carried out to determine the best control methods. ARD, U of A, the Canola Council of Canada and AAFC have been studying clubroot disease on canola since the disease was discovered in Alberta. This Information will become available after researchers have compiled data and may lead to further revisions in the Management Plan and guidelines.

Provincial ASB Committee Grade: Unsatisfactory

Provincial ASB Committee Comments:

The Committee felt that this response did not answer the question posed by this resolution that requested specific and consistent guidelines for municipalities regarding enforcement of the Agricultural Pests Act in regards to clubroot. The Committee felt that the response focused on the biology of the disease and how it can be controlled but not how the Province would unify enforcement of the Act.

The Committee has requested that ARD respond to the resolution again.

ARD Additional Comments:

The *Agricultural Pests Act* is enabling legislation with enforcement delegated to the local authority. This provides some leeway to municipalities in how they provide enforcement within their municipality. ARD provides support and guidance to municipalities by providing a Pest Regulatory Officer to assist with interpretations of the legislation. ARD has also made available several documents “Agdex 140/638-2: the Alberta Clubroot Management Plan”, “Agdex 140/638-1: Clubroot Disease of Canola and Mustard”

and “Guidelines for ASBs for Clubroot” are all available to assist municipal employees in developing a clubroot policy within their municipal boundaries. Additional help is also available from ARD’s Pest Surveillance Branch if a municipality requests assistance in developing a policy for their municipality.

The Guidelines for ASBs for Clubroot are attached to this report as part of the Appendix.

Richardson Ground Squirrel Control – Emergency Registration

WHEREAS Ready to use Strychnine baits have proven ineffective in ground squirrel control

WHEREAS Richardson ground squirrels populations continue to be of concern in parts of the province

WHEREAS 2010 proved to be a poor year due to environmental conditions to successfully poison ground squirrels

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the emergency registration of 2% Liquid Strychnine Concentrate be extended to allow for further control of Richardson Ground Squirrel populations.

Status: Federal

Department: Agriculture and Agri-Food Canada, PMRA

Agriculture and Agri-Food Canada

I would like to address Resolution No. 9: Richardson Ground Squirrel Control – Emergency Registration and Resolution No. 10: Richardson Ground Squirrel Control – Permanent Registration. The responsibility for the registration and regulation of pesticides in Canada, including the granting of emergency uses, falls under the jurisdiction of Health Canada's Pest Management Regulatory Agency (PMRA) under the authority of the Pest Control Products Act.

Before granting an emergency use request from a provincial agricultural ministry, the PMRA considers the severity of the pest outbreak, the availability of alternative control methods, and whether the proposed use will be effective and pose an acceptable risk to humans and the environment. I understand that PMRA granted both Alberta and Saskatchewan emergency use registrations for 2 per cent liquid concentrate strychnine for the 2011 growing season.

Pest Management Regulatory Agency

Recognizing that there are limited options in the short term, the emergency registration for 2% LSC was granted on 23 February 2011 under strict conditions. The 2% LSC can only be used in highly infested areas of Alberta until end of June 2011.

An integrated pest management solution is needed for long term control of Richardson's ground squirrel. Since 2002, the Richardson's Ground Squirrel Integrated Pest Management Steering Committee (RGS Committee) lead by Saskatchewan Agriculture and consisting of experts representing farmers, industry, researchers, both provincial governments, and the PMRA, has been conducting research and is developing an IPM strategy.

A decision on the longer term use of strychnine for Richardson's ground squirrel control will be made after the completion and review of the data generated under the research project, the implementation of an IPM strategy and after discussions with the provincial Departments of Agriculture and Environment.

Provincial ASB Committee Grade: Accept the Response

Provincial ASB Committee Comments:

The Committee felt that because emergency registration was granted for 2011 that the grade should be Accept the Response. The Committee notes that there were some concerns with the emergency registration for 2011, specifically the lateness of granting the emergency registration and the shorter time period for the program. The Committee is grateful to ARD for their efforts in maintaining the emergency registration since 2007 and for obtaining an extension to the program for the 2011 year.

Richardson Ground Squirrel Control – Permanent Registration

WHEREAS The emergency registration of 2% Strychnine has proven effective in managing the large population of Richardson Ground Squirrel since 2008

WHEREAS The ability for producers to obtain 2% liquid Strychnine on a temporary basis has helped reduce populations of Richardson ground squirrels

WHEREAS To help maintain a level of Richardson ground squirrel infestation below economic threshold

WHEREAS There is still no other product available that is as effective as 2% liquid Strychnine

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that 2% Liquid strychnine be made available on a permanent basis to bonafide agricultural producers for the control of Richardson ground squirrels.

Status: Federal

Department: Agriculture and Agri-food Canada
Health Canada's Pest Management Regulatory Agency

Agriculture and Agri-Food Canada

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A decision on the longer term use of strychnine for Richardson's ground squirrel control will be made after the completion and review of the data generated under the research project, the implementation of an IPM strategy and after discussions with the provincial Departments of Agriculture and Environment.

Provincial ASB Committee Grade: Unsatisfactory

Provincial ASB Committee Comments:

The Committee is aware that Pest Management Regulatory Agency (PMRA) is currently considering a permanent registration of strychnine. The decision to grant a permanent registration to strychnine will be made before the end of 2011. The Committee will be monitoring this process and will continue to encourage PMRA to register strychnine permanently.

The Committee was also interested in the final results from the research conducted into Richardson Ground Squirrel Control in Saskatchewan for the past several years as PMRA has indicated that they would not consider permanent registration of 2% liquid strychnine until the research was complete. This research is now complete and the summary results may be reviewed in the Appendix of this report. The full reports may be found online at:

Assessment of the Effectiveness of Rozol, Phostoxin, Strychnine, Exit, Rodenator, and various treatment, to control Richardson's Ground Squirrel Populations.
http://www.agriculture.gov.sk.ca/apps/adf/ADFAdminReport/20070224.pdf

Relationships among Predators, Prey, and Habitat Use
http://www.agriculture.gov.sk.ca/apps/adf/ADFAdminReport/20070225.pdf

Review of Control Methods and Severity of the Richardson's Ground Squirrel Problem in Saskatchewan
http://www.agriculture.gov.sk.ca/apps/adf/ADFAdminReport/20070226.pdf

Banning of Importation of Horses for Slaughter

WHEREAS Bill C-544, a bill to ban the importation of horses for slaughter in Canada, has been introduced to the House of Commons in the fall sitting of 2010; and

WHEREAS Bill C-544 would have a negative impact on the horse slaughter business in Canada, and

WHEREAS Bill C-544 would remove the right of Canadians and residents from other countries to eat horse meat; and

WHEREAS Bill C-544 does not provide for the management of unwanted horses leaving them to die of starvation versus being processed for food in a world where over one quarter of the earth's human population struggles to find enough to eat

THEREFORE BE IT RESOLVED
THAT ALBERTA'S AGRICULTURAL SERVICE BOARDS REQUEST
that the Provincial Government lobby the federal government and members of the opposition parties of Canada to withdraw or defeat Bill C-544 as presented by MP Alex Atmanenko

Agriculture and Agri-Food Canada

I will let my colleague, Ms. Carole Swan, address the concerns raised in Emergent Resolution No. 1: Bill C-544 – Banning of importation of horses for slaughter.

However, I would like to draw your attention to the fact that the horse industry is an important contributor to the Canadian economy and agriculture. It is as diverse as it is large, comprising hobby enthusiasts, small family farms, large industry producers, competitive riders, breeding stables, and other related horse producers and service providers who contribute to the well-being of Canadians. This domestic industry includes the Canadian horsemeat producers who provide employment, produce valuable meat for export and for a limited domestic market, and allow horse owners to choose slaughter as a humane end-of-life option for horses.

In 2007, the United States passed the American Horse Slaughter Prevention Act, which banned the slaughter of horses for human consumption in the United States. As a result, the import of horses for slaughter from the United States to Canada has significantly increased. The Canadian economy has benefited, with horsemeat exports reaching 16,000 tonnes for a value of $84.5 million in 2010. Canada's largest export markets for horsemeat are France, Belgium, Russia, Switzerland, Kazakhstan and Japan.

Canadian Food Inspection Agency

The CFIA considers that the humane slaughter of horses according to all relevant regulatory requirements under the Meat Inspection Act and Regulations is a legitimate business venture. The slaughter to food animals, including horses, is a long-standing Canadian industry.

The CFIA continues to work diligently to enforce the Health of Animals Regulations to verify that farm animals, including horses, are loaded, transported and unloaded in a way that does not cause injury or undue suffering. In addition, regulations and operational policies under the Meat Inspection Regulations, which set standards for the humane handling and slaughter of animals in federally registered abattoirs, are enforced and subject to regular audit to verify compliance.

Thank you for sharing Emergent Resolution #1 with us.

Provincial ASB Committee Grade: Accept the Response

Provincial ASB Committee Comments:

The Committee felt that the response was adequate for this resolution and in favour of what the resolution stated. Further investigation into the current status of the bill shows that it was introduced and went through first reading in the House of Commons on May 10, 2011. This bill is on the schedule for the current session of Parliament and is listed as Bill C-322: An Act to amend the Health of Animals Act and the Meat Inspection Act (slaughter of horses for human consumption). There is currently no timeline on when it will go through second reading in the House of Commons.

Update on Previous Resolutions

2010

Resolution 1-10: Inquiry into Developing Agricultural Products for Market

The response to this resolution was graded as "Accept in Principle". One suggestion that the Provincial ASB Committee had made was to engage the Alberta Livestock and Meat Agency (ALMA) and encourage them to focus on profitability. ALMA currently has several projects ongoing to ensure that Alberta's producers are profitable and competitive. Their projects are related to four goals: Increasing Market Effectiveness, Growing Demand, Enhancing Competitiveness and Advancing Information Flow. Projects include research into developing leaner manufacturing processes, genetics research and market development. According to the 2010-2011 ALMA Annual Report there are currently 56 research and development initiatives focused on enhancing competitiveness and 43 initiatives focusing on efficiency and productivity gains. The current list of projects funded by ALMA can be found at the following website: http://alma.alberta.ca/Programs/ALMAListofProjects/index.htm for further information.

Alberta Agriculture and Rural Development has also encouraged development of more direct marketing for Alberta's producers through its "Explore Local" initiative. Accomplishments for the 2010 -2011 program can be found at the following website: http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/explore13589/$FILE/2010-11Accomplishments.pdf.

Resolution 3-10: Unconfined Seed Release from Rail Cars

The Committee graded the response as "Accept in Principle". The Canadian Wheat Board and Governments of Alberta and Saskatchewan lease their grain cars to various railroad companies throughout Canada. These are typically long term leases called a net service lease agreement. Under a net service lease arrangement, the lessee (i.e. railway) is legally bound and is exclusively responsible for the day-to-day maintenance of the fleet and all associated costs. This includes gate refurbishment and replacement on grain cars. Maintenance on these cars under these arrangements is to be in accordance with the Association of American Railroads (AAR) Interchange Rules. Information about timelines for servicing these cars can be found at: www.aar.org.

Resolution 8-10 Cosmetic Pesticide Bans

This resolution asked the federal and provincial governments to focus on developing a strategy to promote the legitimate scientific evidence used to approve pesticides as well as the proper use and handling of pesticides. A recent search of Pest Management Regulatory Agency's website shows that informing Canadians about pesticide regulation and use is one of their priorities under their 2008-2013 Strategic Plan. There is information related to cosmetic pesticide bans describing what they are and the roles of governments in relation to cosmetic pesticide bans, the regulation of pesticides, and a wide variety of fact sheets and other resources related to safety.

The Committee is also interested in the court case filed in 2010 that is challenging the current cosmetic pesticide ban in Ontario and will be following this case as it proceeds through the court system.

2009

Resolution 2-09: "Operation Clean Farm" Obsolete/Unwanted Pesticide Collection
CleanFarms Canada is scheduled to return to Alberta in 2012/2013 for an obsolete pesticide collection program. Details about the program can be found on their website at: http://www.cleanfarms.ca/collectioncampaign/.

Resolution 3-09: Alberta Agriculture and Rural Development: Agricultural Service Board Funding Program
The Agricultural Service Board Program and Environmental Services Division staff have been working together to seek approval to conduct a full review of the ASB Program in 2012. Funding levels and an annual cost of operating increase are items that could be discussed as part of the program review if it is approved to go forward.

Resolution 13-09: Wild Boar Confinement
Regulatory Services Division (RSD) has started the process of reviewing the regulation for the Livestock Industry Diversification Act (LIDA). There is currently discussion about putting regulations in place for the wild boar industry for identification and fencing standards but the consultation process to make these changes has just started. Provincial government, municipal government and industry stakeholders still need to be consulted to determine standards and practices that will be effective for regulating this industry. RSD is planning to have the consultations complete and new regulations in place by the end of 2012.

2008

Resolution 1-08: Alberta Rat Control Program
This resolution was graded as Incomplete. The resolution requested appointment of a Provincial Rat Control Inspector/Coordinator and for adequate funding for rat inspections, control work and education and awareness. There is currently no specialist in place for the Rat Control Program but all inspectors with Regulatory Services Division (RSD) are trained to be able to act immediately when a rat infestation is reported anywhere in the province. These inspectors are throughout the province with two inspectors who have additional specific duties, such as conducting inspections and distributing toxicant, related to the rat patrol program along the east and south borders of the province. This network of inspectors has proven to be efficient and effective in responding to concerns of rat infestations. All rat calls are acted upon immediately and thoroughly and routine training is provided to all inspectors.

Municipalities are encouraged to work with their local RSD inspector to ensure that there are good lines of communication. Working together the province and municipalities will be able to keep the province of Alberta rat free.

Resolution 2-08: Monitor Canadian Food Inspection Agency
This resolution asked for stronger partnership between Alberta Agriculture and Rural Development (ARD) and Canadian Food Inspection Agency (CFIA) and for better communication to municipal

agriculture staff. It was graded as Accept in Principle. ARD has been working to increase communication between ARD, CFIA and municipalities. The addition of an Emergency Management Coordinator within ARD has allowed the Ministry to focus on developing protocols and procedures to manage animal emergencies, such as disease outbreaks. Communication between the three levels of government is a concern and protocols are being developed to ensure that communication is timely and handled appropriately in an emergency situation.

Resolution 8-08: Natural Resources Conservation Board (NRCB) Approval Process

This resolution requested that NRCB take a holistic approach to approving applications for Confined Feeding Operations (CFOs). There were concerns that the review process was fragmented because responsibilities for issues affecting CFOs were scattered between multiple government agencies. The Committee had graded the response as Accept in Principle with the comment that they wanted to see a review of the Agricultural Operation Practices Act (AOPA) in a timely manner. AOPA is currently being reviewed and municipalities have had an opportunity to provide initial feedback into the review.

2007

Resolution 4-07: Cattle Identification – Credit to Herd of Origin

This resolution requested that producers receive final grade information transfer back to the herd of origin upon implementation of the mandatory traceability system. It was graded as Accept in Principle by the Committee.

This information is now available to cow-calf producers through the BIXS (Beef InfoXchange System) developed by the Canadian Cattleman's Association (CCA). Producers can to http://bixs/cattle.ca/ to learn more about the system and the information that producers can access for their operations.

Resolution 6-07: Tax Code Amendments to Facilitate Sale of Farm Assets

This resolution requested that tax code amendments be put into place to facilitate sale of farm assets. This response was graded as Unsatisfactory.

The Committee has been working on this resolution since 2007. A working group consisting of Merle Goode (ARD Business Development – Tax Strategies), Jeremy Robinson (Assistant Agricultural Fieldman, County of St. Paul) and Brian Brewin (ASB Member/Councillor, M.D. of Taber) was established and they met and came up with several recommendations for the federal government. The Committee met with the Minister and presented these tax strategies to the Minister who recommended that they be forwarded onto his federal counterparts. The Committee is currently in the process of submitting these tax strategies to the federal ministers responsible and will provide an update when feedback is received. The recommendations going forward are available to review as part of the Appendix.

General Updates

Clubroot Awareness and Enforcement

ASBs have passed several resolutions in recent years requesting better direction from the province regarding clubroot enforcement and in assisting ASBs in educating and increasing awareness to producers and other stakeholders about this disease. Pest Surveillance Branch (PSB) recently obtained funding through Growing Forward to work on an education and awareness campaign for diseases such as clubroot. The work on this project is due to be completed by March 2012. The Committee is looking forward to seeing the information that will be produced and how it will assist ASBs.

Extension

There were two resolutions regarding extension put forward in 2008. These resolutions requested that specialists at the Ag Info Centre be able to participate in grassroots producer meetings and for more specialists, particularly a provincial horticultural specialist to assist landowners, to be available for producers and rural landowners.

Policies have been changed and specialists at the Ag Info Centre are now able to participate in grassroots producer meetings when it is justified and the specialist is available. The Key Contact Program was also developed in response to this request. Key Contacts are ARD employees who have a wide range of expertise and who may devote up to 10% of their time to assist a municipality with extension for their producers. Their time may be used to assist municipalities in researching a topic of concern, speaking at an extension event or helping the municipality to organize an event.

Richardson Ground Squirrel and 2% Liquid Strychnine

ASBs have put forward several resolutions requesting emergency and permanent registration of 2% Liquid Strychnine (2% LS). ARD has been successful in obtaining emergency registrations of 2% LS every year since 2007, but ASBs would still like to see 2% LS permanently registered again. Regulatory Services Division (RSD) recently informed the ASBs that Pest Management Regulatory Agency (PMRA) is currently considering registering 2% LS on a permanent basis. The decision regarding permanent registration will be made before the end of 2011. The Committee will continue to follow this issue and report back on the decision made by PMRA.

Wildlife Damage Mitigation

Three resolutions were put forward in 2008 that requested help with wildlife damage regarding feed stocks. One of the resolutions asked for better fencing to protect feed stocks while the others requested compensation for damage done to swath grazing and silage. These resolutions were graded as Unsatisfactory by the Committee. The Committee is aware of a report completed by SRD that looked the current compensation and livestock feed depredation programs and put forward some recommendations to change the current system. The Committee has asked the Minister several times to review this report but the report has not been released outside of government. The Committee will continue to request this report be released to them and is currently working with Deputy Minister John Knapp on this issue.

Appendix

Agricultural Plastics Recycling Pilot Project

Summary Report

Recycling Council of Alberta

September 2009

Table of Contents

1 Introduction

In 2007, the Recycling Council of Alberta (RCA) established a working group with representatives from the Alberta Plastics Recycling Association (APRA), the plastic manufacturing sector, retailers, recycling project operators, Alberta Agriculture, Alberta Environment, and recyclers to look at options for agricultural plastic waste.

The use of plastic materials in agriculture has been a factor in growth of productivity and capacity / scale. At the same time, agricultural plastics in the form of baler twine, bale wrap, silage wrap and feed bags of various sizes are a problematic waste for farmers and agricultural businesses, and their use is continuing to increase. APRA has calculated that polypropylene (twine and cord) sold in the Alberta in 2007 is in range of 9.5 – 11 million lbs. (4300 – 5000 tonnes) and the polyethylene material (sheet materials like silage bags and cover) is somewhat less at 6.5 -8.7 million lbs. (3000 – 4000 tonnes), although that number is expected to grow as grain storage bags gain popularity and continue to replace buildings in application. Although not captured in the above numbers, polypropylene is also used extensively in the manufacture of bulk bags, feed sacks and lumber wrap.

The use of plastic in agriculture is ubiquitous, yet the question remains "is there a cost"?

- Those involved in agronomy are generally well-informed about sustainable production – indeed to have an inherent understanding of its implications as nature's cycles are combined with various inputs to create the bountiful crops we typically enjoy.
- As economics recognizes, and eventually moves to full cost accounting; however difficult, the true cost of plastic use, disposal / recycling must be considered.

So what is full cost accounting and how does it apply to agricultural plastics? Full cost accounting is a system where we must account for costs to natural and social systems as well as economic ones; a concept that meshes well with sustainability. In a review of the issues surrounding the use of agricultural plastics, there are costs that are not recognized in the system used today where plastics are burned on site, disposed of by burying in landfills or backyard pits, or left in the environment as litter.

2 Current Plastic Disposal Methods & Drivers of Change

2.1 Burning on Site

Burning on site is anecdotally thought to be the predominate means of disposal today, yet research shows that harmful compounds are released from burning plastic at low to moderate temperatures. These compounds create a health hazard when inhaled and after they fall to the ground, typically within 500 meters of the burn site, contaminating soil. Some, including dioxins and furans, accumulate in soil and bio-accumulate in fat as they move up the food chain. (See Appendix for additional information.)

The Alberta Livestock and Meat Strategy (ALMS) focuses on On Farm Food Safety and Source Verification as marketing tools; surely it is in our interest as livestock producers individually and collectively to prevent this hazard. Do we know normal background levels of these chemicals in soil and meat? What are current levels? Abnormal levels could make marketing livestock impossible and may require soil remediation/removal - terrifying concepts but costs that are not included in current decisions to burn. For this reason alone it is imperative that burning stop; if it is not acceptable, people must be educated to use alternate means of disposal, and those alternate methods made easily accessible to them.

2.2 Landfill

Landfill currently costs in the order of $50/tonne on average in Alberta, with many sites charging tipping fees that are considerably higher, and prices likely to continue to rise in the future. In addition, landfills may prohibit or limit the disposal of some agricultural plastics, in particular twine, because of the handling challenges it presents and potential damage to equipment.

2.3 Burying on Site

Burying on site occurs in situations where farmers feel they have no other alternative, or that alternatives are inconvenient.

2.4 Recycling

Recycling avoids the cost of landfill. Plastic is a valuable commodity ($2-300 per ton clean and pure in 2008), and clean used plastics can be recycled to resin. To do so, industry must have capability and capacity to deal with the materials and volumes generated. Alberta has significant industrial plastic producers (e.g., Nova) and post industrial processors (e.g. NPI). Post-consumer industry exists for HDPE and PET, while the Beverage Container Recycling System is supported by a recycling fee that provides an incentive to stimulate recycling. There is little industry capacity to handle used agricultural plastic at this time; thus a pilot program was conducted to gain insight into the amount, type and

quality of used agricultural plastic available, and the capability of industry to utilize it.

Shipment to China for recycling is done currently with small volumes, however, this should not be seen as a long term solution, as agricultural contaminants like manure or feed can spread plant or animal disease or introduce new species. Because of this, limitations on exports to other countries is a significant risk.

3 Agricultural Plastic Recycling Pilot

As part of its research efforts, the working group established a pilot project on recycling of agricultural plastics. Before a recycling solution can be advocated problems associated with collection, shipment and recycling must be understood and solved. The goal of the agricultural plastics pilot program was to facilitate a recycling solution to conserve a plastic resource that is currently lost and in the process reduce the air pollution that results from open burning of the material. Assessments in communities across the province were made as agricultural profiles and climates differ significantly.

3.1 The Project:

a. Short-term collection programs (approximately 2 months) for baler twine and silage plastic / wrap were established in the Lethbridge and St. Paul / Smoky Lake (Evergreen Regional Waste Management Commission) areas, as well as continuation of work already underway in Mountain View County. Weight of materials received was tracked along with quality, handling and storage challenges with notation of the effectiveness of sorting, cleanliness, contamination etc.

b. A second component of the trial addressed handling and processing of the material in preparation for shipment to a recycler. The product was baled at public or private recycling facilities in the collection area; however this entailed significant manual handling for transport to the central location from collection sites.

c. A third component of the project was communication with the recyclers to understand issues that arose when dealing with agricultural plastics.

d. The final component is to make recommendations as to how the project can be sustained and developed into a province wide recycling program for agricultural plastics.

The pilot projects were conducted in three representative districts across the province and focused on polyethylene film (bale wrap and silage plastic) and polypropylene (baler) twine. Some net wrap was collected – it is of unknown (mixed) resin types.

Details and outcomes of the three pilot districts follow:

3.1.1 Evergreen Regional Management Services Commission (Counties of St. Paul and Smoky Lake)

- Contact: Dennis Bergheim
- Predominantly mixed farming with moderate scale livestock enterprises. These counties are representative of the northeast; the geographic spread of collection sites was large as the entire region wished to participate.
- Twine was collected in barrel-sized bags, silage plastic in piles, preferably folded and stacked although this was not always the case. Miscommunication at Smoky Lake resulted in plastic added to accumulated piles; an estimate of collected amounts was made and it was manually sorted from the pile.

  Smoky Lake and Bellis transfer stations had anticipated agricultural plastic recycling and had stockpiled mixed plastics over several years. At Bellis, it is estimated the pile contained 25 cubic meters. At Smoky Lake, two small piles had been re-piled with heavy machinery into a single pile estimated at 125 cubic meters, perhaps 100 tonnes.
- All pilot materials were delivered to St. Paul Abilities for baling, largely by with a pickup and trailer. A 30 cubic yard bin of twine collected prior to the pilot project was also hauled for baling but was so entangled baling was impossible. It was landfilled as were the remainder of the piles.
- Baled samples were delivered to Merlin Plastics in Calgary.
- Volumes:

	film	twine
Elk Point	1100 kg	200 kg
Mallaig	400 kg	700 kg
Evergreen Regional	100 kg	200 kg
Smoky Lake	3200 kg	4000 kg
Bellis	500 kg	800 kg
Totals	**5300 kg**	**5900 kg**

3.1.2 Mountain View Regional Waste Management Commission (includes Town of Olds and Rocky View County)

- Contacts: Neil Kivell (Olds) and Joanne Walroth (Rocky View)
- Commission jurisdiction represents central geography and mixed farming enterprises
- They have had positive experience collecting agricultural plastics over several years. Although agricultural plastic is collected throughout the year, an advertising campaign is run through the fall and winter to make producers aware of the program and requirements. In 2008, 6 mm clear poly bags were made available for twine with the result that the material was cleaner and easier to handle than that from previous years. In addition, a County-sponsored program offering $100 for a minimum of 100 kgs ran from April 18 to June 20, 2008. This program collected 19.3 tonnes from 76 participants and of the $7600 payout, $2100 was donated to local 4-H Clubs.
- Volumes:
  - From January 1 to June 30, 2008 Mountain View County collected a total of 21.4 tonnes of mixed polypropylene and polyethylene ag plastic, estimated to be 40% polypropylene and 60% polyethylene.
  - There are approximately 1800 farms in Rocky View County. Farms that have delivered plastic in prior years averaged about 200 kg per farm. It is thus estimated that there are at least 360 tonnes of readily collectable ag plastic per year in the county.
- Mountain View collects and bales plastic at the Olds transfer site, puts it in containers and ships it to China for recycling through Canadian Recycling at a cost to the commission of $380/container.

3.1.3 County of Lethbridge (Iron Springs Transfer Station)

- Contact: Les Wieland
- This is a southern location with good representation of the large scale feedlot industry. There are 60,000(?) head of cattle within a five mile radius of Iron Springs. We are told each feedlot will have a pick up truck box of twine on a daily basis over winter! The pilot collection began in June when the winter feeding season was finished, thus volume is low. Twine was collected in bags; either barrel sized plastic bags or mini bulk bags. Silage plastic was collected in a 40 cubic yard container to prevent wind scatter.
- Volumes:
  - Silage wrap 3000 lbs (1.4 tonnes)

  - Twine 2000 lbs (0.9 tonnes)

- There is pressure from farmers, especially younger ones, to continue the program. Burn pits are the common method of disposal and are understood to be a poor management practice, but no reasonable alternative exists.
- Plastic was transported to Lethbridge and baled by GPS for this pilot, where is remains as the original recycler destined to receive the material is no longer in business. He is not interested in large volumes as his excess capacity is limited.

3.2 Recyclers

Resin values of up to $300 per ton in the summer of 2008 created significant interest. Lower values in 2009 are less attractive, plastics having zero value as of July 2009.

Used plastic is a low value substance which recyclers view as a potential resource, but are uncertain of their ability to process and the cost to do so. Washing equipment for processing large volumes used plastic is not available locally, freight to Vancouver is a cost factor and capacity there is limited. All recyclers wanted the plastic delivered to their sites at no cost to them. Purity of the resin type is also a concern for true recycling as impurities decrease the value significantly. The exception to this is Pnewko, who ships the plastic to the US where it is made into railroad ties of mixed resin types.

China is a significant market for used plastics and there is a possible market for twine in the USA ; however, agricultural contaminants make international shipments vulnerable to trade policy and plant / animal disease issues.

Since the pilot was completed, a potential market for agricultural film has emerged in Southern Alberta. This market currently accepts film at its door with no compensation, and can handle the level of contamination present in this material.

4 Pilot Study Conclusions

4.1 Lessons learned that apply to collection sites

1. Used plastics must be **sorted at source** by resin type. Mixed resin types have much lower value.

2. **Minimal contamination** is important. Dirt and manure add significant weight to films. Straw or hay stuck to twine are difficult for recyclers to separate.

3. **Ease of handling** at collection sites .Twine must be bagged to prevent tangling and in sizes that can be easily handled. Bagging should occur in units < 1 cubic metre, such as barrel-size bags or minibulk bags. Film must be rolled or folded to minimize tangling for handling for transport. Large roll-off bins are not efficient for collection.

4. **Manual handling is inefficient,** as is transportation, where used plastic is moved to central sites for baling as the material is of low density and difficult to handle with machines. Options are: accumulation on site with periodic baling or the use of bins / bags for accumulation which can be handled mechanically when full.

5. **Generators are willing** to bring used plastics to landfills for recycling. Many are asking for the pilot to be continued or expanded.

6. **Education** is key. Results in the MD of Mountain View suggest that producers will collect the material, keeping it as clean as possible, and deliver it seasonally.

7. **Site variability is great**. Wind in the south necessitates a storage method that avoids litter. Winter temperatures combined with thaws in the north freeze bags / film to the ground (and would also do so into bins). Seasonality of processing must be considered. Pole sheds or equivalent covers may be required in some areas.

4.2 Market Conclusions

What have we learned:

- Entrepreneurs have shown interest in agricultural plastics for recycling, however, they must be able to cover costs and generate profit to do so. In addition, post-industrial plastics processors are looking at post-consumer sources to increase their supply base.
  - A viable recycling industry must have an economy of scale. A recently established wash plant required 1500 tonnes to start and had a capacity of 3000 tonnes per year.
- The resins are potentially valuable materials.
  - Material that is clean had a value of ~$2-300 per tonne in 2008.

Mixed and contaminated material has no value - some companies will accept limited amounts of it FOB their site. This material may have limited application for railroad ties and curbs.

In order for viable collection of agricultural plastics, there must be a market for the material, including local and regional infrastructure that can handle and process the volumes collected.

4.3 Issues to deal with / possible solutions

1. Reliable recyclers with capacity and demand are required; there must be an economic incentive throughout economic cycles.
2. Cleanliness of materials for recycling: Dirt and mud clean off ag plastics with little problem, although they add significantly to weight and handling cost. Straw and hay mixed into twine are difficult to remove with present cleaning equipment.
3. Net Wrap which has replaced a portion of the twine market may be of unknown resin types which make recycling difficult. It devalues twine if mixed with it as mixed resins have less value.
4. Twine must be bagged for handling. Truckloads of time and mixed materials become inseparable and cannot be handled even with machinery.
5. Transport: to haul economically, weight must be near truck capacity thus compaction is required. Estimated production of a portable baler unit is 2 bales per hour at a cost of 10 cents per pound.

4.4 Overall Conclusions

Prerequisites and relative stakeholder roles for a viable agricultural plastics recycling system include:

1. Industry:
   - supplies agriculture with plastic of known resin types, preferably not mixtures
   - provides funding through stewardship program
2. Agriculture /farms /feedlots:
   - sort plastic by resin type
   - keep plastics as clean as possible for recycling
   - deliver used plastics to collection sites
3. Collection facilities:
   - separate resin types and prevent wind scatter

- compact collected material to minimize transportation cost

4. Regional Facilities / Industry:
   - clean plastics contaminated with dirt, hay /straw
   - process cleaned plastic into resin for industry use

5 Recommendations

5.1 Requirements of a provincial program

- Protocols for collection, compaction and shipping
- Education of generators, including early site inspections, so protocols are met
- Access to required equipment for compaction and loading / shipping
- Processing equipment and technology to clean recycle material and process it into a saleable bead or granule
- Processing should be regional and within Canada to avoid potential constraints on shipment, yet economies of scale require a large collection area.
- An end use for the material.

5.2 Recommendations

1. The development of local / regional recycling capability.
   - Avoidance of possible barriers to shipment across international borders due to agricultural contaminants necessitates
   - Reduction of freight and handling costs
   - Alberta should be seen as a leader in sustainability, programs are under development elsewhere in Canada and internationally. A recycling industry would complement existing industry in the province and minimize shipping costs.

2. A program to establish an economic incentive for recycling throughout an economic cycle is required. This should cover costs of transport, handling and perhaps some processing at times of low resin value but may create an income stream at times of high resin value. This may take the form of a recycling charge at time of purchase as with other Alberta stewardship programs.

GUIDELINES FOR ASBs FOR CLUBROOT

1. Develop a policy for clubroot management within each municipality
    a. See attached for examples of policies
        i. Attachments 8 and 9
2. Public Relations Guidelines
    a. Advertise policy in local media
        i. i.e. newsletters, local paper, public meetings
        ii. Try to do one month prior to inspections
        iii. Set up a database of growers with land locations
            1. Ask them to call in with information to facilitate notifying for inspection purposes
        iv. Have producer advisory committee
            1. Can help advise council and ASB on management plans
            2. Producer advisory committees are eligible for cost sharing under ASB grant
    b. Subjects to cover in advertising
        i. When field inspections will be occurring
        ii. Right of entry of field inspectors under *Agricultural Pests Act* (*APA*)
        iii. Potential impact of disease on canola and other cruciferous crops
        iv. How disease is spread
            1. Movement with soil on equipment
            2. Wind movement of soil
            3. Water movement of soil
            4. Inoculum levels
        v. Sanitation protocols staff will be following
        vi. Urge producers to clean and disinfect equipment before moving fields
3. Inspection Guidelines
    a. Don't drive vehicles into fields!
        i. Park in a safe location on roadsides or along approach to field
    b. Use disposable booties or have bleach available to disinfect boots
    c. Follow Record Keeping and Sampling Guidelines below
4. Record Keeping Guidelines
    a. Keep records on all fields sampled
    b. Information to record on inspection forms
        i. Field reference number
        ii. Legal land location
        iii. GPS location of field
        iv. Surveyor
        v. Date inspected/sampled
        vi. Size of field
        vii. GPS locations of sites sampled
        viii. Pictures of field/aerial photos
        ix. Date samples submitted
        x. Lab numbers for samples submitted
        xi. Results of samples
    c. If landowner or other witness present, have them sign form
            1. See attached for a samples of field inspection forms

a. Attachments 1 & 2

d. Maintain a log of all samples submitted for testing
e. Record all contacts with landowner/occupant of land

5. Sampling Guidelines
    a. Sample more than one area of a field
        i. If using a percent disease incidence to determine length of restriction (i.e. low, moderate or high), must follow attached guidelines from Dr. Strelkov
            1. Attachment 3
        ii. If using a presence of absence standard for enforcement, sample a minimum of 5 areas of field
            1. Number of samples taken per field should be outlined in local bylaws for each jurisdiction
            2. Highly recommend that a W or other zigzag pattern is used and multiple samples are taken
                a. Don't just sample the entryways!!!
            3. Attachment 4
    b. If a positive visual sample is found on a field of a producer who has not previously had clubroot, lab samples MUST be taken for confirmation via a PCR test
        i. Policy Guidelines for ASBs
            1. Attachment 5
    c. Use good sanitation when collecting samples to prevent cross contamination and prevent false negatives!
        i. Sterilize sampling tools between each sample using a 1-2% v/v bleach solution or alcohol
        ii. Use a new Ziploc bag for each sample
            1. If samples cannot be submitted immediately, paper bags may be used but steps have to be taken to prevent cross contamination of samples
    d. Record field reference number on each sample as it is collected
    e. Keep samples cool by placing into a cooler
    f. Submit samples as soon as possible
        i. If samples cannot be submitted immediately, air dry and send in for testing

6. Notice Guidelines
    a. Upon receipt of a positive visual sample/PCR sample (especially for producers that have not had clubroot previously identified on their land), a notice should be issued **if cropping restrictions are going to be enforced**
        i. Follow local policies and guidelines of municipality
        ii. See **Attachment 5**
    b. Issuing Notice
        i. Form 2 (Section 6 (1)) Agricultural Pests Act is the notice that is to be issued for a clubroot infestation
            1. Attachment 6
            2. Attachment 7 (example of clubroot notice)

Attachment 1

Example - Clubroot Inspection Form

(INSERT MUNICIPALITY) CLUBROOT INSPECTION FORM

		(INSERT DATE)
LANDOWNER		INITIAL INSPECTION DATE
	FIELD DIAGRAM	
QTR / SEC / TWP / RGE / MER		
LEGAL LAND DESCRIPTION		
MUNICIPAL ADDRESS (IF AVAILABLE)		
ESTIMATED SIZE OF FIELD		

INITIAL VISIT

INSPECTION PERFORMED:	SAMPLE TAKEN: YES or NO	
REMARKS: i.e. Found suspicious plants near the entrance of field. Samples taken and sent into (Lab) for PCR test.		SAMPLE LOT: LAB NO: RESULT: POSITIVE or NEGATIVE
GPS LOCATION:		
INSPECTOR NAME	INSPECTOR SIGNATURE	DATE

NOTIFICATION OF INFESTATION

NOTICE NO:		
DATE NOTICE ISSUED:		
DATE NOTICE RECEIVED:		

INITIAL CONTACT

CONTACT NAME:		
REMARKS:		
INSPECTOR NAME	INSPECTOR SIGNATURE	DATE

Attachment 2
Example - Clubroot Inspection Follow Up Forms

FOLLOW UP – YEAR 1		
CROP:		
REMARKS:		
INSPECTOR NAME	**INSPECTOR SIGNATURE**	**DATE**

FOLLOW UP – YEAR 2		
CROP:		
REMARKS:		
INSPECTOR NAME	**INSPECTOR SIGNATURE**	**DATE**

FOLLOW UP – YEAR 3		
CROP:		
REMARKS:		
INSPECTOR NAME	**INSPECTOR SIGNATURE**	**DATE**

FOLLOW UP – YEAR 4		
CROP:		
REMARKS:		
INSPECTOR NAME	**INSPECTOR SIGNATURE**	**DATE**

FOLLOW UP – YEAR 5		
CROP:		
REMARKS:		
INSPECTOR NAME	**INSPECTOR SIGNATURE**	**DATE**

Attachment 3

CLUBROOT OF CRUCIFERS
SURVEYING PROTOCOL TO DETERMINE PERCENT DISEASE INCIDENCE

Introduction: Clubroot is a serious soil-borne disease of crucifers (canola, mustard and vegetable crops such as cabbage, broccoli, cauliflower, turnip and radish) caused by the fungus-like organism *Plasmodiophora brassicae*. Disease development is favored by wet and acidic soil conditions. The pathogen is mainly spread by movement of soil and infected plant material, as well as by run-off water.

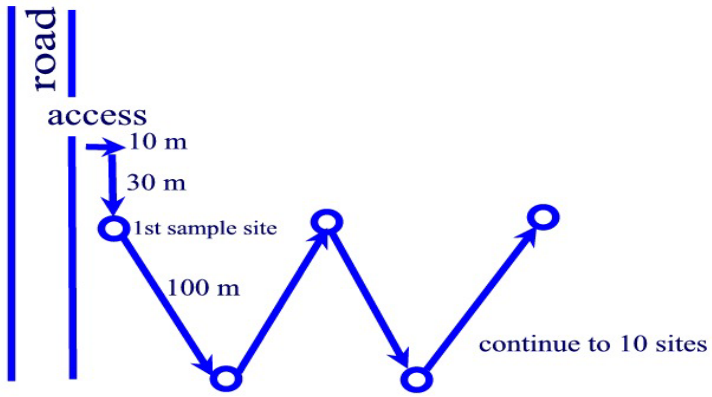
Symptoms: The pathogen infects the roots of susceptible hosts, causing the formation of club-shaped galls or swellings that restrict the uptake of water and nutrients by the plant. Above-ground symptoms include yellowing, stunting, premature ripening and wilting of plants under moisture stress. As symptoms may take 6-8 weeks to develop, they become most noticeable later in the summer (late July or August). See **Agdex 140/638-1, "Clubroot Disease of Canola and Mustard"** for more information on clubroot and pictures of galls.

Equipment and Materials Needed:

Clipboard	Pocket knife	plastic tray or pail
Record sheets	Paper bags	Disposable boot covers
Hand trowel	5% bleach solution	GPS Unit

Survey Procedure: Scout for clubroot by visually inspecting canola / mustard / cole crop roots for galls. **Survey the field shortly after swathing** – the physical effort needed to walk through the field will be minimal and galls will be maximum size. If the survey is conducted long after swathing, the galls will begin to deteriorate and more care is needed during root removal and diagnosis.

1. Do not drive or park vehicle into fields.
    a. Try to park on the side of the road in a safe location.
2. Put on new disposable boot covers.
3. Survey the field in a 'W' pattern, sampling 10 plants at each of 10 equally spaced sites along the arms of the W.
    a. Begin 30 m to the right of the field access, 10m from field edge and allow 100 m between sampling points.
    b. The last sampling point may be conducted at any spot in the field that is suspect due to topography (for example, low-lying area with more moisture) or due to suspicious symptoms during ripening (indicated by farmer or pre-scouting during ripening stages).
    c. See diagram below for sampling pattern.



4. At each sample site, dig up roots from 10 plants and shake off excess soil. Visually examine roots for presence of galls. Record sample site GPS location and findings on form.
    a. At sample sites where infection is observed or suspected, collect 5 root specimens with galls, by cutting off stems and placing roots in a paper bag labeled with field location.
        i. **NOTE:** Disinfect sampling tools with a 10% v/v bleach solution or alcohol between samples.
    b. Combine the root samples from suspect individual sites in the field. The composite sample should have 5 to 10 suspect root specimens.
    c. Retain sample (air dry) for submission to lab for confirmation (needed for first occurrence for an individual grower). Dr. Strelkov at the University of Alberta may also request samples for pathotype identification.
5. Prior to leaving potentially infested field, discard disposable boot covers into garbage bag and incinerate later. If boot covers were not used, remove clumps of soil from boots, and then wash in plastic tray with 1-2% v/v bleach solution (in order to prevent disease spread). Disinfect sampling tools with bleach solution.
    a. Recommended to keep boots/tools in solutions for 15 minutes.

ASB CLUBROOT SURVEY FORM 2008

Surveyor name _____

Municipality _____

email _____

Telephone _____

Field location (quarter, section, township, etc) _____

Name of producer farming that field _____

Date surveyed _____

Crop cultivar _____

Previous crops 2007 _____

2006 _____

2005 _____

Field soil pH from previous soil tests if available _____

Survey results

Strictly according to protocol (sample 10 plants at each of 10 sites using W pattern) Sample site	GPS coordinates	Number of infested plants
1 (nearest access)		
2		
3		
4		
5		
6		
7		
8		
9		
10		

positive sites / 10 _____

Lab test confirmation _____

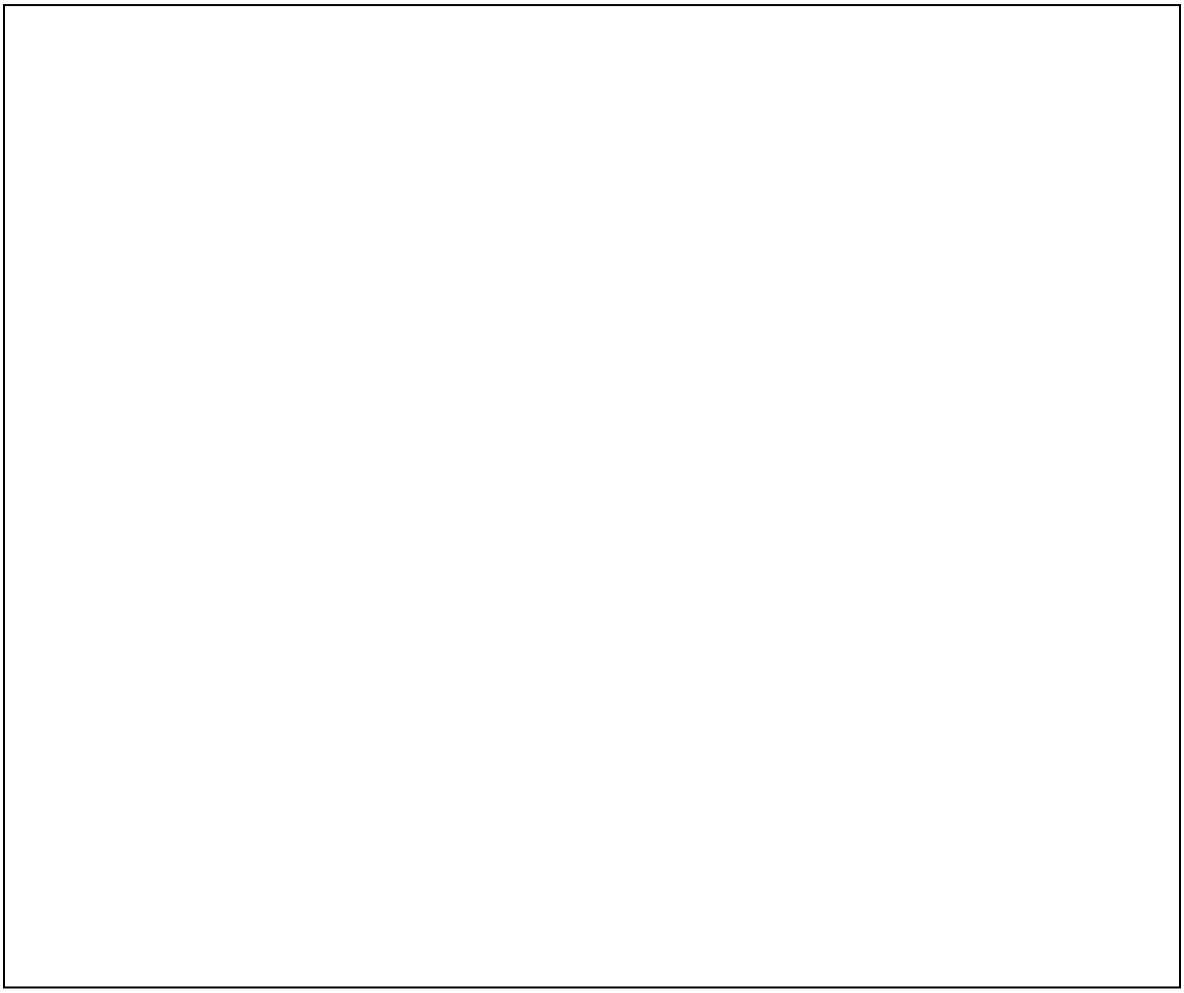
Additional comments

_____
_____
_____
_____
_____

Optional – draw map of field and landmarks with sampling points (on back of page)

Surveyor signature_____ Date_____

Indicate roads and field access, sample points, and landmarks



Attachment 4

CLUBROOT OF CRUCIFERS
SURVEYING PROTOCOL TO DETECT PRESENCE OR ABSENCE

Introduction: Clubroot is a serious soil-borne disease of crucifer (canola, mustard, cabbage, broccoli, cauliflower, turnip and radish) crops caused by the fungus like organism *Plasmodiophora brassicae*. Disease development is favoured by wet and acidic soil conditions. The pathogen is mainly spread by movement of soil, infected plant material and run off water.

Symptoms: The pathogen infects the roots of susceptible hosts causing the formation of club-shaped galls or swellings that restrict the uptake of water and nutrients by the plant. Above ground symptoms include yellowing, stunting, premature ripening and wilting of plants under moisture stress.

Equipment and Materials Needed:

Clipboard	Pocket Knife	Plastic Tray or Pail
Record Sheets	Paper Bags	Disposable Boot Covers
Hand Trowel	5% Bleach Solution	GPS Unit

Survey Procedure
Scout for clubroot by visually inspecting susceptible crops for galls (swellings on the roots). Symptoms may take 6 to 8 weeks to develop and are most detectable late in the summer. Recommended time to survey to detect presence or absence of clubroot galls is from **July to September**.

1. Do not drive or park vehicle into fields. Try to park on the side of the road in a safe location.
2. Visually assess field for suspect infection of clubroot. Look for symptoms such as premature ripening, yellowing or browning of plants, stunting and wilting of plants under moisture stress in crop.
3. Put on new disposable boot covers.
4. Survey the field in a 'W' pattern, concentrating on areas of potential contamination such as field entrances, sloughs, water runs and other areas identified as suspect.
5. Sample several sites within the travel pattern. At each site, record the GPS location and dig up the roots of 10 plants. Shake excess soil off the roots and visually inspect for the presence of galls. Record the number of infested plants (plants that have galls) at each sample site within the field.
    b. At sites where infection is suspected or found, collect 5 samples of the roots by cutting off the stems and placing the roots in a paper bag labeled with field location.
        i. **NOTE:** Disinfect sampling tools with a 10% v/v bleach solution or alcohol between samples.
    c. Combine root samples from individual sample sites within the field to submit for analysis when clubroot is suspected or found. The combined sample must have

5-10 root specimens. If there is no prior history of clubroot for that grower, a sample from the field must be submitted for confirmation by a laboratory test (PCR test).

    i. The PCR test is to confirm the presence of clubroot within the field. GPS data and visual survey results may be used to identify individual sites within the field.

d. Retain samples for submission to lab or to Dr. Strelkov for pathotypes identification (if requested).
e. Prior to leaving potentially infested field, discard disposable boot covers into garbage bag and incinerate later. If boot covers were not used, remove clumps of soil from boots, and then wash in plastic tray with 5% bleach solution (in order to prevent disease spread).
f. Disinfect sampling tools with bleach solution.
    i. Recommended to leave boots and tools in bleach solution for 15 minutes for proper disinfection.

Attachment 5

CLUBROOT POLICY GUIDELINES FOR MUNICIPALITIES

Adoption of uniform enforcement policies by Alberta municipalities is recommended for reducing the spread and severity of clubroot disease in canola and cole crops. It will be easier for all land users (farmers, oil and gas companies, etc) who operate in several municipalities to know and follow clubroot policies if they are uniform. There are clubroot best management practices (BMP) that should be communicated to all stakeholders. The following policy recommendations and BMP's were developed by the Alberta Clubroot Management Committee.

Recommended Clubroot Policies:

A. Field Surveys

1. Clubroot field surveys should be conducted in municipalities where canola, mustard and cole crops are grown.
2. Clubroot survey method, reporting form and calculation of disease incidence must exactly follow standard protocols provided by the Alberta Clubroot Management Committee.
3. The first positive survey result for an individual grower must be confirmed by laboratory test (PCR).
4. Survey results and legal locations of infested fields must be made available to land renters, landowners and other parties with a genuine commercial interest, under the provisions of the *Alberta Agricultural Pests Act and the Pest and Nuisance Control Regulation (section 10)*. The method of information release shall be at the discretion of the municipal officer, and may be in the form of a map at the municipal office, verbal communication or other formats.

B. Disease Spread Reduction

1. For fields with a low incidence of clubroot disease (1 positive site out of 10 sample sites using the clubroot survey method), the occupant shall not plant canola or other susceptible crops in the **three** following years. Proper cleaning of field equipment prior to transport from infested fields is required, using procedures outlined in the factsheet "Clubroot Disease of Canola and Mustard" (Agdex 140/638-1, May 2007).
2. For fields with a moderate to high incidence of clubroot disease (2 or more positive sites out of 10 sample sites using the clubroot survey method), proper cleaning of field equipment is mandatory and of highest priority, and the occupant shall not plant canola or other susceptible crops for **five** subsequent years.
3. Municipalities may also put policies in place allowing the Pest Inspector to issue notices based on the presence or absence of clubroot disease within a field. In these instances, if clubroot is present within the field, proper cleaning of field equipment is mandatory and of highest priority, and the occupant shall not plant canola or other susceptible crops for (**insert number of years**).
    i. **NOTE:** Discretion is left to local municipalities to determine the number of years to take canola and other susceptible crops out of rotation for this situation. When local ASBs and councils are making

Clubroot Policies, it is recommended that a minimum of three years is used (see point 1 above).

Best Management Practices:

1. Canola growers in high-risk situations (confirmed clubroot in the area) should follow traditional canola rotation recommendations (1 in 4). Although this will not prevent the inadvertent introduction of clubroot to clean fields, long rotations will keep any such introductions at very low levels with a minimal economic impact.
2. Equipment should be cleaned before transport from all fields. Basic equipment cleaning should be practiced even after fields not known to be infested by clubroot, to reduce the spread of other pests (weeds and other diseases).
3. The area next to the exit in infested fields should be grassed to facilitate equipment washing. Where light infestations are only present near the current field access, a field exit should be established at another distant location if possible.
4. Grain (canola, cereals, pulses, etc) or propagative materials (potato tubers) from infested fields should not be kept for seed purposes. Straw should not be baled and removed from infested fields.
5. Volunteer canola and crucifer weeds must be controlled on infested fields before three weeks of growth has occurred to prevent the production of new resting spores.
6. Equipment traffic from infested fields should be minimized. Minimum tillage systems are recommended partly due to less machinery traffic from the field than with conventional tillage. Minimum tillage systems also reduce soil erosion and thus decrease the risk of local spread.
7. Scout fields regularly and identify causes of poor crop growth.

FOIP Questions and Answers

Can information about infested fields be released?

Results from soil or clubroot tests can be released as long as they don't identify a person by name. Test results are not considered personal information – it is considered information about the land and not information about a person, therefore, it can be disclosed that a pest exists on a piece of land but NOT who owns or farms the land.

Do the Agricultural Pests Act (APA) and FOIP work together?

The *APA* allows for the release of personal information. Section 10 under the *APA* Regulations states: *An inspector who finds on any premises evidence of an infestation in any crop may notify persons engaged in the growing, transporting or processing of any crop that may be affected by the infestation, or any organizations representing them, of the infestation, including the location of those premises and the name of their occupants, if the inspector considers such notification necessary or advisable with a view to preventing the spread of or controlling the infestation.*

FOIP allows for release of personal information when there is a provision under another Act.

FOIP Act Section 40(1)(f)

> 40(1) A public body may disclose personal information only
>
> > (f) for any purpose in accordance with an enactment of Alberta or Canada that authorizes or requires the disclosure,

Release of information remains is at the discretion of the municipality under both FOIP and the APA as they are most aware of current conditions within their jurisdictions and the potential affects the release of information may have within the community.

What if someone has a county map and looks up the name of the person who owns a parcel of land that is listed as being infected with clubroot? Would this be considered a release of personal information?

It would not be considered a release of personal information because the initiative to find out that information came from an individual and the information was found on documents that are publicly available. There is a provision under FOIP that allows for release of information as long as it is ethical and in good conscious.

FOIP Act Section 4(1)(l)

4(1) This Act applies to all records in the custody or under the control of a public body, including court administration records, but does not apply to the following:

> (l) a record made from information
>
> > (i) in the Personal Property Registry,
> >
> > (ii) in the office of the Registrar of Motor Vehicle Services,
> >
> > (iii) in the office of the Registrar of Corporations,
> >
> > (iv) in the office of the Registrar of Companies,
> >
> > (v) in a Land Titles Office,
> >
> > (vi) in an office of the Director, or of a district registrar, as defined in the *Vital Statistics Act,* or
> >
> > (vii) in a registry operated by a public body if that registry is

authorized or recognized by an enactment and public access to the registry is normally permitted;

Why won't private agribusinesses share information with the municipalities?

Agribusinesses are subject to PIPA and not FOIP. They may disclose the land location of an infested field but there is no requirement under the current law that states that they must share information

What is an official FOIP request?

An official FOIP request is a formal request to release information. There is a cost of $25 and a form to fill out to make an official FOIP request. If an official FOIP request is made then the municipality is required to release information. The municipality cannot release personal information but is required to release information such as test results and the legal land location for a field that is infected with clubroot, for example. The name of the landowner or occupant would not be released for an official FOIP request.

Information that is considered non-personal (i.e. legal land description, test results) **MUST** be released when an official FOIP request is received. It is up to the discretion of the municipality to release information in all other circumstances.

Attachment 6
Form 2 – Section 6(1) – *Agricultural Pests Act*

Notice to Control Pests

Agricultural Pests Act

(Section 6(1))

Pest and Nuisance Control Regulation (Form 2)

To (owner or occupant of land or property or owner or person in control of livestock) _____ of (address) _____

You are hereby notified that (description of land or livestock or other property) located on the _____ quarter of section _____ township _____ range _____ west of the _____ meridian, Alberta, as indicated on the diagram below, contains or is likely to contain or should be protected against (name of pest) _____, which has been declared a pest by the Pest and Nuisance Control Regulation made under the *Agricultural Pests Act*, and you are directed to take the following measures:

(include description of measures to be taken, including the material, if any, to be used against the pest)

NW	NE
SW	SE

All of the above measures must be completed within _____ days from the date of issue of this notice, failing which action may be taken in accordance with the legislation referred to above. This notice is issued under section 12(1) of the *Agricultural Pests Act*. An appeal against this notice may be served on the municipal secretary, accompanied by a deposit of $100, before the expiry of the time limit stated above or the period of 10 days from service of the notice, whichever expiry date occurs first, and otherwise made in accordance with the *Agricultural Pests Act*.

Date of Issue: _____

Inspector: _____

Telephone Number: _____

Attachment 7
Example of Form 2 Letter

NOTICE TO CONTROL PESTS

Form 2 (Section 6 (1))

Agricultural Pests Act

Attn:

You are herby notified that cropland located on the (INSERT LEGAL LAND LOCATION) that was planted to canola in the (INSERT YEAR) growing season contains CLUBROOT, which has been declared a pest by the *Pest and Nuisance Control Regulation* made under the *Agricultural Pests Act*, and you are directed to take the following measures:

- No seeding of canola or other cruciferous crops (mustard, cabbage, cauliflower, broccoli, brussel sprouts, turnips, radish) for the next (INSERT NO. OF YEARS)
    - Therefore canola cannot be seeded on this land until the year (**INSERT YEAR**)
- Control all volunteer canola
- Clean dirt off tillage equipment when leaving this land location

Property owners who rent this land to other producers must share this information with them.

Failure to comply with the terms of the above measure may result in action taken in accordance with the legislation referred to as the *Agricultural Pests Act*. This notice is issued under section 12 (1) of the *Agricultural Pests Act*.

An appeal against this notice may be served on the municipal secretary, accompanied by a deposit of $100, within a period of 10 days from service of the notice and otherwise made in accordance with the Agricultural Pests Act.

Attachment 8

Example of Municipal Bylaw/Policy

Agricultural Services – Pest Control

Control of Clubroot Disease in Canola

A control measure to prevent the growth and spread of clubroot in canola crops.

a) All canola crops within (MUNICIPALITY) will be inspected for the presence of clubroot each growing season. This will take place in the months of August and September.

b) Inspections will be conducted by the Agricultural Fieldman or by an Inspector appointed by the (MUNICIPALITY) Agricultural Service Board.

c) Inspectors will follow procedures set out by Agricultural Services administration on proper sampling techniques and protocol for entering upon land.

d) When land is verified positive for clubroot the landowner will be notified in writing with a legal notice under the Province of Alberta Agricultural Pests Act.

e) The notice will prohibit the growth of canola and mustard crops for the period of five years. Under no circumstances will these crops be permitted to be grown.

f) Any land then sown to such a crop within the five year crop restriction will be destroyed.

g) The owner or occupants of the land who are disturbing the soil will have the responsibility to follow best management guidelines set out by Alberta Agriculture and Rural Development to reduce the spread of disease with the movement of soil and equipment.

h) Agricultural Services administration staff will provide information and education to landowners regarding the spread of disease. Further, information may be obtained by contacting the Agricultural Services Board at (PHONE NUMBER).

This policy shall be reviewed on an annual basis by the Agricultural Service Board.

Example 9

Municipal Policy for Clubroot Inspection Procedure

(MUNICIPAL) CLUBROOT INSPECTION PROCEDURE

Equipment Requirements

- **(MUNICIPAL)** employee identification card
- Province of Alberta Agricultural Pests Act
- **(MUNICIPAL)** map
- Clubroot Inspection Reports
- Copies of **(MUNICIPAL)** Policy **(Policy No.)** Control of Clubroot Disease in Canola and copies of Management of Clubroot Agdex 140/638-2
- Sample bags or containers for collection of specimens
- Protective disposable slippers for footwear
- Garbage bags
- Small shovel
- Small pruning shears
- Phone log
- Mileage log

Procedure for Field Inspections

Preliminary

- The Inspector, along with the **(AGRICULTURAL FIELDMAN),** will establish and follow a plan of action for the season. They shall also meet each week to discuss issues.
- The Inspector will check all prohibited parcels of land from the previous year's Notifications to ensure that canola is not grown.
- The Inspector will inspect all canola fields within **(MUNICIPALITY)** starting in July, concluding at the end of September.

Inspection

1. Upon finding a canola field, park vehicle in an approach or off to the side of the road in a safe location. Do not drive or park vehicle in fields.
2. Locate and verify field on **(MUNICIPAL)** map. Record location on map and in Inspection Report.
3. Visually assess field for suspect infection of clubroot (premature ripening, yellowing or browning of plants) in crop.

4. Before entering field, the Inspector will wear a protective disposable slippers over their footwear to stop the transfer of soil from one site to the next.
5. The crop shall be walked in a pre-determined travel pattern (such as a W configuration). Areas of potential contamination such as field entrances, sloughs, water runs should be closely examined. A minimum of **six (# IS UP TO INDIVIDUAL MUNICIPALITIES!)** plants should be pulled in this travel pattern so as to give the best representation of the crop.
6. When the presence of clubroot is found upon a plant, the Inspector shall take a tissue sample of the plant. This sample is to be bagged, recorded, and marked with the field reference.

Abstracts for project

Assessment of the effectiveness of Rozol®, Phostoxin®, strychnine, Exit®, Rodenator®, and various treatments, to control Richardson's ground squirrel

number: 20070224

In an effort to develop a sustainable, integrated Richardson's ground squirrel (Spermophilus richardsonii) management program in the Canadian Prairies, this research program aimed to 1) assess and compare, in spring and summer, the control efficacy and selectivity of strychnine, chlorophacinone and aluminum phosphide, 2) investigate the ground squirrel-vegetation height relationship, 3) assess and develop capture-efficient trapping devices, and 4) assess predator-prey relationships in southwest Saskatchewan. The 2009 toxicant study, when combined with the results of 2007 and 2008 research programs led to the following conclusions:
Phostoxin is effective when it is applied in fields with vegetation and moist soil.
Rozol and Ground Force are effective in grasslands, but less efficient in alfalfa fields, both in spring and summer.
Oat baits treated with freshly produced and freshly mixed 0.4% liquid strychnine (Nu-gro) have the potential to effectively control ground squirrel populations.
Ready-to-use strychnine baits do not have the potential to control at least 70% of ground squirrel populations.

This study showed that the presence of ground squirrels dropped significantly when vegetation reached a minimum height of only 15 cm.
The GT2006 killing trap can be expected to render 70% of captured Richardson's ground squirrels irreversibly unconscious in 3 minutes (P = 0.05). This trapping device is best suited for the control of ground squirrels in areas where chemical control is not a solution, and for small population concentrations. Multi-capture pen traps with drop-doors mounted on side walls, with strychnine in their centre, were found as effective as strychnine baits placed in burrow openings. No primary poisoning of non-target species and secondary poisoning of predators occurred.
This study showed that badger (Taxidea taxus), long-tailed weasel (Mustela frenata), and red fox (Vulpes vulpes) food habits consisted mainly of ground squirrels in spring and summer, particularly in June-July. Coyotes (Canis latrans) did not appear to be as effective as the other terrestrial predators, but they may still have an impact on ground squirrel populations when they have their pups. Badgers did not establish their home range and hunting grounds at random. Their distribution across landscapes suggested that they associate with larger concentrations of Richardson's ground squirrels, and therefore aim to maximize their foraging activities.
On the basis of these findings, it is recommended that strychnine baits be further tested with additives and attractants. Tests should include the multi-capture pen trap design in the assessment of its potential to control ground squirrel populations over large areas. Badger multi-scale habitat selection and red fox hunting activities should be further investigated.

Abstracts for project
Relationships among predators, prey, and habitat use
number: 20070225

`Data on the effects of terrestrial carnivores on Richardson's ground squirrel populations are necessary for the development of a comprehensive Integrated Pest Management program. The objectives of this study were to:
1. Evaluate multi-scale habitat selection by badgers.
2. Assess the effect of badger, red fox and long-tailed weasel predation on ground squirrel population densities.
3. Study red fox family movements and activities in ground squirrel fields in the vicinity of their dens.
4. Study food habits of badger, red fox and long-tailed weasels in landscapes with well-established Richardson's ground squirrel populations vs. fields with few ground squirrels.

The study of predator-prey relationships was conducted in southwest Saskatchewan.
Landscapes inhabited by 3 badgers were studied from 2008 to 2010. In all cases, the observed distribution of ground squirrel holes per vegetation type differed ($P < 0.05$) from expected. Ground squirrel holes were significantly ($P < 0.05$) more frequent in grass and buckbrush in 2008, in fallow and alfalfa in 2009, and in pasture in 2010 (Table 3). Each year, badgers established their hunting grounds in vegetation types with a significantly greater number of ground squirrel holes. This distribution of badger hunting grounds suggests that badgers do not establish their hunting grounds at random; they select landscape areas with the greatest abundance of ground squirrel burrow openings. There was a significant ($r = 0.76$, $P < 0.005$) linear relationship ($Y = 0.07X + 17.9$) between densities of badger and ground squirrel burrow openings.
The number of ground squirrels/ha in 20 x 20 m regions overlapping 2 fox dens was significantly ($P = 0.04$) lower than in adjacent areas. Pups did not hunt in adjacent areas. The impact of long-tailed weasel predation on ground squirrel juvenile populations was assessed in summers of 2008 and 2010. The average capture rate of juveniles in study plots with latrines was significantly different ($P < 0.05$) from that of study plots (located in the same field) without latrines. On average, in 2008 and 2010, there were 9 (4.8) juveniles/ha in 7 study plots with latrines, compared to 28.6 (15.1) juveniles/ha in 21 study plots without latrines. Overall, there were 68.5% less juveniles in study plots with latrines than in other study plots.
From 2008 to 2010, badger food habits consisted mostly of Richardson's ground squirrels from April to July. Foxes inhabiting ground squirrel-rich areas fed mainly on ground squirrels. In ground squirrel-poor areas, they fed mostly on deer mice. The proportions of June-July weasel scats with Richardson's ground squirrel remains, and mean volumes, were similar from year to year. Ground squirrel remains corresponded to approximately 63% of all prey items in 2009, and >79 % in 2008 and 2010. For all predators studied, when ground squirrels were the main food item, the prey diversity index was low, this suggesting that badgers, foxes and weasels specialized on this prey. When ground squirrels were scarce or difficult to acquire (e.g., during hibernation), they fed on small mammals, birds and insects without any particular preference.
This study showed that predators may impact individually or as a group on ground squirrels, and may play an important role in minimizing the risk of rodent population outbreaks. Integrating predator conservation in Richardson's ground squirrel population management will require site-specific approaches. Further investigations are needed to better determine when and how to control ground squirrels without endangering the survival of predators.

Abstracts for project

Review of control methods and severity of the Richardson's ground squirrel problem in Saskatchewan

number: 20070226

The project consisted of two phases: 1) literature review and mail survey; and 2) field investigation. The literature review in scientific journals, books, symposia, and technical reports treating control methods for ground squirrels and other fossorial rodents resulted in a synthesis of information for chemical, mechanical, cultural and natural methods. A total of 165 questionnaires were mailed in September 2008 to a selected number of Saskatchewan rural municipalities within each major soil zone of the province. Field investigations of the Richardson's ground squirrels' distribution and abundance were conducted in May-June 2008 in 12 rural municipalities selected in 4 soil zones. Grass height was recorded at each study plot, and classified as short (< 15 cm) or tall (15 cm).While no toxicant is without defaults, strychnine, anticoagulants, and gases are currently available and, if used properly, can control >70% of ground squirrel populations. However, their application in the field should be done in such a manner to not impact on non-target species, predators and scavengers. A long-term, effective management of Richardson's ground squirrel populations should integrate chemical, mechanical, cultural and natural control methods. The Richardson's ground squirrel problem has been reported in most agricultural regions of the province. At first sight, it appears that there is a larger ground squirrel infestation in the Brown soil zone. However, some of the study plots of the Black and Gray soil zones had very high densities of ground squirrels. Various factors such as vegetation height and farming practices likely play a role on the species distribution and densities. More work will be required on the ecology of Richardson's ground squirrels to understand factors that impact on their distribution and abundance.

Tax Code Amendments

The Agricultural industry in Canada over the next decade will face one of its largest challenges: passing down the family farm to the next generation of farmers. The facts are simple; the average age of the Canadian farmer is increasing with the majority approaching retirement age and facing large tax liabilities, while the decreasing numbers of young farmers are unable to finance the purchase of necessary farm assets due to a lack of equity. These issues, and the solutions derived to address them will determine how agriculture will look in twenty years.

There are a number of proposals that may be considered with respect to amending Income Tax policy to address the ability of retiring farmers to enable the transfer of assets to the new generation of farmers that will address both their tax liability and the ability of the new farmer to acquire assets.

One. It is proposed that the 10 year Capital Gains Reserve be extended to 20 years for farm property transactions to both family members and non-related individuals. In a lot of situations farmers who have no children who actively farm wish to transfer part of their farming assets to either related parties like nephews and nieces. In certain situations the recipient party may not even be related. In implementing this strategy both the retiring farmer and the new entrant would benefit. The ability of the retiring farmer to spread capital gains over a longer period of time would reduce their tax liability and reduce Old Age Security claw back and the Alternative Minimum Tax. The new producers would benefit by extending their debt over a longer period of time and reducing their annual payments and their dependence on traditional financing.

In addition under estate planning a 20 year reserve will allow for the sale of land where no proceeds are actually paid but a demand promissory note is established forgivable on death. This note gives the parents a form of security that if the children sell the land before their death, get divorced, etc then they can call the note in. Upon their death there are no adverse tax rules upon forgiveness of debt. In many cases a 20 year reserve will eliminate the Alternative Minimum Tax and the OAS claw back and yet allow the parents to utilize their Capital gains exemption and the children a bump in their adjusted cost base (ACB).

Two: It is proposed that amendments to the Income Tax Act be undertaken to address the transfer of depreciable property over a period of time. The successful transfer of depreciable property is critical for the successful transition of the operating assets of a farm business. This is more important than the land as beginning farmers need equipment and buildings to operate their farms.

If amendments to permit the transfer of depreciable property are not undertaken accountants will continue to form partnerships and corporations in order to utilize provisions within the Income Tax Act that force producers to use complicated structures to accomplish the same end result. For example if a producer were to transfer equipment to a company then he can sell the shares over time and utilize the capital gains reserve. Although this strategy is effective in most cases the practicality of small farms using a partnership or corporation is not feasible. It makes sense to utilize a reserve on recaptured depreciation on the sale of equipment over time.

Three. It is proposed that the Income Tax Act be amended to utilize the definition of breeding herd as found under the Drought Deferral Program for the sale of breeding livestock. Presently if a producer sells breeding livestock over time the vendor is deemed to have arranged a financing contract. Under this reasoning the vendor is taxed on the entire proceeds of the sale and the purchaser is deemed to have paid for the cattle and receives an offsetting deduction. For new farmers this large deduction is probably not needed in the year of the purchase. In addition if the purchaser has off-farm income he still cannot use the deduction because of the Mandatory Inventory Adjustment rules (MIA) which restricts the creation of a farm loss through the purchase of inventory. These rules once again require business structures to "get around" the adverse taxation of breeding herds.