



Grain, Grass & Growth

November, 2015

www.chinookappliedresearch.ca

Have you
registered for
the
**6th Annual
Cattlemen
Clinic!**

6th Annual

CATTELMEN CLINIC



Tuesday, November 17th
Senior's Centre, Oyen
10:00 a.m. – 4:00 p.m.
Lunch included

Agenda Highlights:

Making Winter Rations from Miscellaneous Feed Sources
Barry Yarencio, Beef/Forage Specialist, Alberta
Agriculture

Cattle Handling Systems – A Vet's Perspective
Dr. Cec Ruschkowski, Oyen Vet Services

"The top ten game changers for the world's farmers &
Canada's beef industry"
Brenda Schoepp (Farmer, Author,
Inspirational Speaker, BEEFLINK Newsletter)

Genomics – What it Means to the Cow/Calf Operation
Dr. Les Byers, Zoetis Animal Health



Partners:



Plus Mini-Tradeshow!

Pre-registration is appreciated:
Call CARA at 403-664-3777
or email us at cara-1@telus.net

\$25.00 CARA Members
\$30.00 Non-members

Growing Forward 2 Funding update



With the overwhelming applications and limited funding some Growing Forward 2 programs are currently closed until further notice. While Alberta Agriculture won't give a specific date to expect programs announcements, we can let you know which funding programs are currently accepting applications and which are not.

Confined Feeding Operation (CFO) Stewardship

This program has a cost share of 30%-70% cost share which is dependent on the type of project. Some examples of projects that are eligible are livestock pen renovations to meet AOPA standards and regulations, relocation of livestock facilities away from water/ flood risks, composting equipment, improved manure storage and more!

To apply for this stewardship program you must have completed your Environmental Farm Plan (EFP) or complete a CFO Site Assessment Checklist. You can complete yours online with the assistance from a CARA staff member.

Food Safety Systems Producer Program

This program you are eligible for up to 70% cost share for eligible activities, up to a maximum of \$5,000 per applicant. Some examples of activities are livestock squeeze with neck extender, scales, load bars, platforms, milk guards, and software for tracking animal health.

Food Safety Systems Producer qualifications include:

-must be enrolled in your specific On-Farm Food Safety Program (OFFS):

Beef producers: Complete the online course, webinar, or in-person Verified Beef Production workshops to qualify. For more information visit www.albertaqualitybeef.com

Sheep Producers: Visit www.cansheep.ca and enroll online or complete an in-person Producer Training Session.

Dairy Producers: Visit www.dairyfarmers.ca to register in the Canadian Quality Milk Program.

Hog Producers: Visit www.epa-aqe.com and register in the Canadian Quality assurance for Canadian Hog Producers Program.

There are also OFFS programs for broiler hatching eggs, cervid, chicken, grains, horticulture and turkey. Visit www.growingforward.ab.ca for more information.

These programs may or may not become available in the future. The following programs are still closed to applications.

Livestock Welfare Producer

For implementing low stress, low hazard environments for livestock, such as upgrading corral systems.

Animal Health Biosecurity Producer

For livestock quarantine pens and rodent control for poultry, for example.

For more information on any of the growing forward 2 programs you are able to call CARA at 664-3777.

To get the most up to date information on program availability please visit www.growingforward.alberta.ca and click subscribe on your favorite programs.

Reasons to Complete an EFP

- Maintaining a healthy environment is essential to the success of Alberta's agricultural producers. The Environmental Farm Plan (EFP) program helps you identify and address environmental risks in your operation.
- Protecting water, air and soil quality is key to the sustainable production of crops and livestock, and to leaving a healthy and productive farm for the next generation. An EFP will identify what you are already doing well and pinpoint where improvements can be made.
- By addressing these risks you increase operational efficiency while reducing farm costs, which results in increased profit for you. With your EFP completion certificate, you become eligible for some funding under the Growing Forward 2 program.
- Pairing environmental stewardship with agricultural production is also crucial in the marketing of your products. Consumers are increasingly concerned about the safety and quality of the food they eat and how that food is grown/ raised. Sustainable sourcing is becoming a requirement of many major food purchasers, from manufacturers to restaurants.

Having an EFP demonstrates to the public, government, lenders and/or investors that you are managing your environmental risks.

Stored Grain Insects, Mites and Molds Frequently Asked Questions

Prepared by Jim Broatch, Ag-Info Centre, Alberta Agriculture and Rural Development

What can I do to prevent my crop from infestation by stored grain insects?

The best time to minimize the potential for stored grain insects is before the grain is in the bin. A thorough cleaning of the bin prior to filling is the best method to reduce any small populations of stored grain insects that may become a problem later in the year. Storage bins, especially if there's a history of infestation, can be sprayed or dusted with a recommended insecticide before grain storage.

Producers can help prevent problems by cleaning up any spilled grain around the bin. Spilt grain, exposed to environmental moisture, can easily build up populations of insects that could migrate into the bin later in the year. Cleaning up and removing any outside grain can minimize future problems within the bins.

What conditions would make stored product more susceptible to stored grain damage?

Warm, moist or weedy crops would be most susceptible to damage. Warm or moist grain will contribute to moisture migration within a bin. These conditions can cause locations within the bin where grain will spoil and result in insect infestation, mite and mold development. In fall the outside of the bin cools quickly. The cool air settles, while the warmer air, located in the interior rises, causing a circular flow within the bin. This air pattern deposits moisture, through condensation, at the top center of the bin. In spring the reverse occurs, where warming from the sun warms the outside layer, causing a circular air movement depositing moisture at the bottom of the bin. Moulds that develop give off additional heat and moisture, resulting in a microclimate more favorable for stored grain insect populations. Mold by-products can be toxic if fed to farm animals. The more moisture in the grain, the more likely it is to have a zone with enough moisture to start a stored grain insect problem if the pests are present.

Weed seeds, which often have higher moisture content than the harvested crop, can be concentrated in the central core as the grain when binned. This situation can cause more moisture to buildup in this area. If the stored grain is particularly weedy and/or moist, cleaning or drying the grain may reduce insect problems in storage at a later date.

How do I identify the pest?

The most common and serious insect pest is the Rusty Grain Beetle. Large populations can cause grain to heat and spoil. Look for a distinct emergence hole in the germ area of the seed. The Red Flour beetle is another common pest, but it cannot feed on undamaged dry seed with



less than 12% moisture. Saw-toothed grain beetles occur most commonly in oats. These beetles can be confused with other beetles that feed on fungus, including the foreign grain beetle. Grain mites are whitish and very small (.2-.5 mm).

The grainscanada.gc.ca website has a simple Identification key to find commonly found adult insects associated with stored grain in Canada. As well as a comprehensive key to adult beetles found in stored products, including grain, in Canada and worldwide.

Can I protect the grain in the bin if stored grain insects are a risk?

If a stored grain insect problem is anticipated, products can be added while augering or moving grain. Products with diatomaceous earth such as Protect-It® can keep potential insect problems in check. Addition of these products at recommended rates while augering grain will provide protection against stored grain pests. Call the Ag-Info Centre for more information 310-FARM (3276).

What if stored grain insect problems develop?

If a problem is determined, a producer can move grain in cold weather (minus 20 Celsius or colder). Moving the grain cools and dries the grain and insects, reducing populations and dispersing any warm or moist grain pockets. Pneumatic conveyors (grain vacs) will kill most free-living insects, especially fungus feeding insects and mites. Incorporating diatomaceous earth products while rebinning can also help minimize stored grain pest buildup.

Fumigation with a chemical such as Phostoxin® is also possible at this stage. This is a Restricted product and use can only be performed by a licensed applicator. No matter what chemical is used, always follow label directions and Restrictions on Sales and Wait periods before sale.

For more information please go to www.agric.gov.ab.





WESTERN CANADA



Conference on Soil Health

December

8th, 9th & 10th 2015

Radisson

HOTEL EDMONTON SOUTH
4440 GATEWAY BOULEVARD

Speakers:

- | | |
|-------------------------|---|
| Dr. Yamily Zavala | <i>What is Soil Health?</i> |
| Dr. Harold van Es | <i>Soil Health Assessment and Building Soils for Better Crops</i> |
| Gabe Brown | <i>Healthy Soils, Healthy Farms, Healthy Communities</i> |
| Dr. Jill Clapperton | <i>Healthy Plants Grow in Healthy Soils</i> |
| Dr. Allen Williams | <i>Adaptive Grazing Leads to Reduced Inputs & Improved Profitability; Grazing for Soil Health</i> |
| Dr. Jeff Battigelli | <i>Soil Biodiversity - Exploring the World Beneath Your Feet</i> |
| Dr. Martin Entz | <i>Ecological Farm Management to Improve Health of Prairie Soils</i> |
| Neil Dennis | <i>Grazing to Healthier Soils</i> |
| Dr. Odette Menard | <i>Earthworms, Soil Conservation, Soil Health...Getting to the Roots of It</i> |
| Jay Fuhrer | <i>Cover Crops and Living Soils</i> |
| Producer Panel | <i>How I Improved the Health of My Soil</i> |
| Banquet Speaker: | |
| Blake Vince | <i>Nuffield Scholar "Multi-species Cover Cropping Around the World"</i> |

For more information or to Register contact:
www.albertasoilhealth.ca or ARECA 780-612-9712



Registration is now available online at www.albertasoilhealth.ca
Early bird registration is until November 20th, buy your tickets now!

Adverse reactions to vaccines and drugs in cattle

Heather Smith Thomas, The Canadian Cattlemen

Occasionally cattle experience a reaction to vaccine or medication (injected, applied topically or given orally). An allergic reaction can be mild and local (swelling at the injection site after vaccination) or serious and fatal — if the animal goes into anaphylactic shock.

Many of the things we administer are foreign to the animal's body, and in the case of vaccines the goal is for the body to recognize it as foreign and develop antibodies to combat these foreign agents (antigens) in the future. The vaccine will therefore enable the animal to create an immune response. On rare occasions, however, the animal may develop an acute allergic reaction to a foreign substance. Reactions can range in severity from hives/itching to systemic shock with fluid in the lungs and sudden death.

Dr. Steve Hendrick of the Coaldale Veterinary Clinic in Coaldale, Alta., a feedlot, dairy and cow-calf practice in southern Alberta, says some of the clostridial vaccines result in a temporary lump or swelling at the injection site. "Most vaccines have been changed so they can be given subcutaneously, and those swellings become more apparent when they are not deep in the muscle," he says.

Label instructions give dosage, injection sites and whether the vaccine should be given intramuscular (IM) or subcutaneous (SC). The neck is generally the preferred site — so injections are not going into muscles that would be better cuts of meat, in case of injection lesions. If the neck site will swell, however, put the vaccine a little farther up the neck (in the acceptable triangular area) rather than close to the shoulder. A painful swelling ahead of the shoulder makes it difficult for the animal to move that shoulder forward, creating lameness for several days.

The carriers of certain antibiotics are also somewhat irritating. "Some individual animals are also more sensitive to certain products. You don't always know, however, when giving a medication or a vaccine, whether that particular animal will react more adversely than the rest of the herd," says Hendrick.

Hives sometimes occur when cattle are exposed again to a product they have already been sensitized to. A serious adverse reaction may be sudden and unexpected because many producers routinely vaccinate and treat animals for years and never experience a serious reaction.

"There are four types of hypersensitivity, including immediate anaphylactic reaction, and hives can be part of that, along with swelling that shuts off the airways. Others are a delayed type of sensitivity, and in some of these instances the animal may develop hives but no other problems," says Hendrick.

Dr. Trisha Dowling, professor, veterinary clinical pharmacology at the Western College of Veterinary Medicine, and co-director of Canadian gFARAD (a global food animal residue avoidance database), says the worst type of reaction is anaphylaxis. "Unfortunately, with severe anaphylactic reactions you don't have a chance to treat; the animal just drops dead. In a less serious situation you can treat the animal with intravenous epinephrine, but most people don't have this drug on hand," she says.

"Vaccines are the worst, for adverse reactions, just by their nature — because you are stimulating the immune system. Vaccine reactions also far outnumber reactions to drugs. The most common reactions are to clostridial bacterins that contain whole organisms," says Dowling.

"The next most common causes of allergic reactions are antibiotic injections. Penicillin is the most notorious for allergic reactions. I've not seen a fatal anaphylactic reaction to penicillin in a cow; we see it more in horses. This may be partly because more

penicillin is used in horses because of its effectiveness for many infections. In cattle we see more reactions to oxytetracycline. If a cow or calf has an anaphylactic reaction to oxytetracycline, it's usually not the first injection that they react to. It's usually the second one, because they have been previously sensitized to this drug," she explains.

Signs of reaction

Some of these swellings may be huge. "Tetracycline, for instance, is a very irritating molecule. Sometimes the cow's neck is so big you can't get her in the head-catch." The carrier for a certain product may also cause irritation and reactions.

► DART DANGERS

Problems with misplaced injections

Some ranchers use a dart gun to give injections out in the pasture without having to bring the animal in or restrain it. "Pasture cowboys often do this, and it can create all kinds of problems. Not only is there risk for getting it into the wrong place on the animal, but we've heard stories about the dart bouncing off the animal and coming back past the cowboy's head. If this was a syringe loaded with Micotil and you shot yourself, it would be enough to be a fatal dose," says Dowling.

"And depending on how you hit the animal with the needle — whether it goes SC or IM — can be a problem. The injection is more difficult to control with this method. Someone has a video on YouTube showing a cow that's three-legged lame with what looks like horrible foot rot. They shoot her with the dart gun and it sticks into her hip bone and she's running across the pasture with the dart embedded in the bone!"

Adverse reactions to vaccines and drugs in cattle Continued

“This is often the case with oxytetracycline. If you give the short-acting oxy-tet intravenously and give it too fast, it causes low blood pressure and the animal faints/collapses. Intravenous oxytetracycline and intravenous trimethoprim sulfas are notorious for that,” says Dowling.

When an animal collapses during an IV injection, it usually recovers quickly — unless it is injured when it falls down. “It’s simply an acute collapse and then they bounce back up again. Those products should always be injected very slowly. With tetracycline, the reaction is due to both the molecule and the polypropylene carrier it’s in. With trimethoprim sulfa, it seems to be mostly the carrier that causes this reaction in which the blood pressure drops,” she explains.

“There are not very many other kinds of reactions, in cattle. There is one report in the literature of hives in a cow, resulting from an injection of ceftiofur (cephalosporin), but this is uncommon,” she says.

“Adverse reactions are not well reported in our Canadian system. It’s a bit easier to report adverse reactions in the American system. But we do know the most common reactions we see are from vaccines rather than drugs. With the drugs, fatalities are infrequent, but there are still many issues with irritation at the injection site,” she says.

Ways to avoid or reduce risks from reactions

“For instance, tilmicosin (Micotil) is very irritating, so it is labelled only for SC administration and you expect some swelling. But if you give tilmicosin intramuscularly it creates very nasty tissue damage,” she says. You can prevent some adverse reactions by giving the product according to label directions — at proper dosage and in the proper injection sites.

“Regular penicillin is a lot more irritating if you give it subcutaneously than if you give it intramuscularly. But now we have penicillins that are labelled for subcutaneous injections and they are OK to give that way. There are also different oxytetracycline products; Biomycin is less irritating if given subcutaneously, whereas Tetradure was labelled for IM and when given subcutaneously it was horrific. Make sure you follow label directions for each product,” says Dowling.

Most swellings are just tissue reaction at the injection site, but if a dirty needle was used, it may create an abscess. This needs to be opened and drained, but may break open on its own. It’s very important to use clean needles, and follow proper procedures for injection.

“I run the food safety database for Canada. When we do have violations we go back and look at these things. With penicillin, people generally call me and say they used the labelled dose and followed the directions and still ended up with a positive (tissue residue), and then I wonder what volume they injected. Some people put the whole dose in one injection, since cattle don’t like multiple injections — rather than 10 ml per site. If they put it all in one spot, it doesn’t absorb the same way; there is delayed elimination from the body,” explains Dowling.

“It’s also common (especially in dairy cows), to accidentally put an IM injection between the semimembranosus and the semitendinosus muscles on the back of the hind leg. The drug then ends up in the fascial plane between the muscles rather than in muscle and then it is absorbed much more slowly. It is best to do IM injections in the neck, where there are lots of small muscles and a lot of movement. The drug will be absorbed faster, and the irritation is in the less valuable cuts of meat. I have photos of things like phenylbutazone or even flunixin (Banamine) given IM in the neck versus hindquarters. In every case, using the same drug dose, the lesions are much worse if given in the hindquarters versus in the neck muscles,” she says.

Alberta Wheat
COMMISSION

GROWTH.
INNOVATION
RESULTS.

Visit www.albertawheat.ca for more information on the **2015 Regional Meeting Schedule** & to Register for the meetings.



**Alberta
Barley**



**Agronomy
Update 2016**

January 19 & 20
Registration: 1-800-387-6030
Sheraton Red Deer Hotel,
Red Deer, Alberta

CARA Update

The combine has been parked for the winter and most of the samples have been processed. Soil samples are being collected. Analysis, interpretation and reporting have begun while all kinds of industry meetings are taking place. So goes the end of a project year for applied research. Expect project reports in late January or early February.

A few comments on the past growing season:

- some crop sites were not harvestable for data collection due to poor emergence while others yielded surprisingly well after the dry start
- Yamily's cocktail cover crops generated a lot of interest and appear to be an excellent option for fall grazing as well as a tool for soil improvement
- heads up for weed control in next year's crops due to all the late crop and weed growth this year
- lots of questions on feed quality and potential nitrate issues with the late growth and frosts
- turning annual crops into feed, plus late season moisture, has alleviated the crisis on feed supplies for local cattlemen
- Mother Nature again reminded us she really is the boss

We are soon into planning next year's program – please call the office or one of the CARA Directors if you have ideas you'd like us to include.



Photo Courtesy of Chris Jorgenson



Hanna 2015 Plot



Photo Courtesy of Sweet Bay Farms

Come Garden In Winter

Horticulture workshop designed to educate & inspire!

Saturday January 23, 2016
Buffalo Community Center
Buffalo, AB
 9:30 am-3:30pm
 Lunch included

Door Prizes
Draws
Vendors

Keynote Speaker
Jim Hole
Garden Myths

Dr. Yamily Zavala
Soil Health

\$40 per person
Register by January 13, 2016
Limited space available!

Please phone Sherri at
Ph: 403-664-2080
Or email becalc@telusplanet.net

2015 FARMING SMARTER

Growing new ideas.

CONFERENCE & TRADESHOW

December 8 & 9, 2015

COAST LETHBRIDGE HOTEL & CONFERENCE CENTRE
 526 Mayor Magrath Drive, Lethbridge, AB

Keynote presenters
 Dr. David Montgomery, Author & Ph.D geomorphology
 Peter Johnson, Agronomist & Host of Wheat Pete's Word
 John Knapp, Author & former Deputy Minister of Alberta Agriculture

Banquet speaker
 Charlie Russell, Discovering the true nature of the grizzly bear

PLUS MANY MORE: Dr. Ron DePaauw, Dr. Bob Stewart, Dr. Vern Baron,
 Dr. Pauline Mele, Kristijan Hebert, Rob Dunn & Farming Smarter.

Full Conference: \$225 • One Day: \$150 • Banquet Ticket: \$30

For further information visit: www.farmingsmarter.com

PLATINUM

GOLD

CARA Calendar of Events

Date	Event Details
November 17 Oyen, Senior's Center	6th annual Cattlemen Clinic Register by calling CARA at (403)-664-3777
December 1 Delia Community Center	ACPC Regional meeting Contact Marlene Caskey at gmcaskey@netago.ca for more information
December 2 Sedalia Community Hall	Working Well Workshop Register by calling CARA at (403)-664-3777
December 8-10 Edmonton, Radisson Hotel	Western Canada Conference on Soil Health Register by visiting www.albertasoilhealth.ca
December 8 -9 Coast Lethbridge Hotel & Conference Centre	2015 Farming Smarter Conference & Tradeshow For further information visit: www.farmingsmarter.com
January 23, 2016 Buffalo Community Center	Come Garden in Winter To register or for more information call Sherri at (403)-664-2060
January 26-28 Edmonton Expo Centre	Farm Tech 2016 Visit www.farmtechconference.com for more information
January 29 Brooks	Anibal Pordomingo: Grass Fed Beef Details TBA
January 31 Sedalia Community Hall	4H Calving Clinic Details TBA
February 2, 2016 Oyen	Ladies Calving Clinic Details TBA
TBA	Transport, Assessing and Euthanasia — Jennifer Woods presenting
TBA	Crop Strategy Meetings & Irrigation Workshop



Tree Seedling Order Form

Prairie Shelterbelt Program
www.prairieshelterbeltprogram.ca

Now accepting Spring 2016 tree orders. Order forms are available at the Special Areas offices & on their website
www.specialareas.ab.ca



More of a Digital

Person?

If you would like to receive this newsletter via email, please contact Olivia at cara-3@telus.net

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