

STARLAND AG TALK

Volume 8, Issue 2

IN TUNE...IN PROGRESS

July 2011



In This Issue...

Starland County Agricultural Service Board

NEW

-Brillion Grass Seeder 10 Ft

Rate: \$5 per acre

-Poor Boy Bag Roller



-14' Ezee On Breaking Disk

Rate: \$395/day

-15' JD 1590 No-till Drill Rental

Rate: \$6 per acre

-Rawhide Portable Corral System Rental

Rate: \$200/

day



Don't forget to get your [Shelterbelt tree applications](#) in for next years tree order. Applications available at Starland County Office 403-772-3793.

ATTENTION FARMERS

Starland County ASB Summer Tour

TUESDAY AUGUST 2, 2011

The Delia C-2000 Club and Starland County Agricultural Service Board invite you to attend our annual summer farm tour beginning at 12:30 P.M. on Tuesday, August 2 from the Michichi recreation area.

Travelling by Air Conditioned Bus this year's tour features a number of interesting stops including: Controlled Traffic Farming, 5 Shank Agriplow System, Canola Variety Trial, Xemium & Headline Foliar Fungicide Trials, ARES Clearfield Canola Chemical, Poor Boy Bag Rolling Demonstration and much more.

Cost of the tour is \$20.00 per person and will include transportation, refreshments, a "BBQ Steak Supper" and door prizes. The bus will be leaving from the Michichi Recreation area at 1:00 P.M. so please arrive early.

To register please contact the Starland County Office at 772-3793 or Barry Mason at 364-2129.



Spraying Program

\$50/hr + Chemical

[Shelterbelt spraying program](#) available for landowners with in Starland County

[Weed Spraying Program](#) also in place with less 60% Incentive on [Toadflax](#) and [Scentsless Chamomile](#)



[Solar-Powered Water Pumping System for Livestock](#)



For demonstration purposes only. 2 week demonstration period. Pre-booking required, call Jared Malansky at Starland County 403-772-3793.

Waterlogging and canola

1. As root oxygen levels decline, energy generation from root stored sugars switches from aerobic respiration to less efficient anaerobic processes (glycolysis and fermentation pathways). The cytoplasm of root cells becomes acidic which then causes cell death. In addition, cell damage occurs after re-introduction of oxygen to the root system because the systems that deal with oxygen radicals have been affected.
2. As root energy generation declines and root cells die, the active transport of nutrients to shoots declines (most notably the macronutrients). The oxygen depleted wet soil causes soil microbes to switch to anaerobic metabolism which not only promotes denitrification (and thus available N loss) but also reduction of iron, manganese and sulphate (and thus available S loss). Iron, manganese and sulphide toxicity can then occur, but this is likely of secondary importance compared to macronutrient deficiency.
3. Warm flooded soil may show symptoms earlier than cold waterlogged soil since soil microbes are more active and deplete oxygen levels more quickly, and possibly produce toxic levels of Fe^{+2} and Mn^{+2} more quickly. Plants flooded under cold conditions may end up with higher damage since plant response mechanisms may be reduced. There is some evidence that plants exposed to moderately saturated soils can become somewhat acclimatized and show better tolerance to subsequent oxygen depleted soil.
4. Flooded soil abiotically emits ethylene which is a plant hormone with many different effects on plant physiology. Submerged roots also produce more ethylene precursors (ACC) that are transported via xylem to above ground parts. There is a concert of hormonal changes involving other hormones than ethylene. After flooding and one photoperiod (~12 hours), synthesis of ethylene precursors are accelerated and the ACC oxidase / receptor sites in above ground parts are also up-regulated. Under waterlogged situations, ethylene promotes stem elongation (premature bolting) which may be a survival mechanism to allow some seed production, or to increase plant height above water and thus increase flow of oxygen down to roots. However, canola does not seem to have specialized channels of cells (aerenchyma) that can conduct oxygen more readily. Research has shown that external ethylene application strongly mimics the symptoms of waterlogging.

5. Mature plants have been described as more tolerant of waterlogging than seedlings. Canadian studies with cereals and flax has found that young seedlings (2 day) were more sensitive than older seedlings. Chinese research indicates the seedling stage is most susceptible, followed by stem elongation and pod formation, whereas the least vulnerable was the flowering stage. However, one European study reported greater biomass reductions with waterlogged 11 day old *B. napus* seedlings than 5 day old.



6. Data on canola yield loss due to waterlogging is sparse, and the Canola Growers Manual describes one pot report from Argentina. There was a yield loss reported with the shortest waterlogging period of 3 days, so there may be yield loss with even shorter periods of waterlogging. But the seedling stage (4 leaf) was conducted in their winter period with temperatures of 6 – 7 C. Canadian studies on 2 leaf cereal crops found that 1, 3 and 7 day flooding caused 0, up to 9% and 40-60% yield losses respectively. Another Canadian greenhouse trial found yield reductions from 7 day flooding at the 2 leaf stage of flax, oats, barley and spring wheat to be 24, 39, 57 and 42% respectively.
7. There has been some research that found differences in waterlogging tolerance between mustard / rapeseed species (*B. juncea* best, *B. napus* worst) or germplasm (*B. rapa* waterlogging tolerance could be achieved through recurrent selection). Waterlogging tolerance was partly related to development of adventitious roots.
8. Chinese research has reported some alleviation of waterlogging stress in canola by application of fertilizer (mainly N, but also P and K), and / or growth regulators.

STARLAND COUNTY SUMMER FARM TOUR

When: Tuesday August 2, 2011

Where: Michichi Campground

Time: 12:30 - 7:00 P.M.

Cost: \$20.00 / person includes transportation, refreshments, a BBQ steak dinner & door prizes

The Delia C-2000 Club and Starland County Agricultural Service Board invite you to attend our summer farm tour on Tuesday, August 2nd, 2011 starting at 12:30 P.M. from the Michichi campground.

Travelling by Air Conditioned Bus, this tour features a number of interesting items including:

- ▶ Controlled Traffic Farming
- ▶ New Holland & JD Conservapak Precision Air Drill Presentations
- ▶ Poor Boy Bag Roller Demonstration
- ▶ 5 Shank Agriplow Soil Care System Demonstration
- ▶ Canola Variety Plot
- ▶ Xemium & Headline Foliar Fungicide Trials
- ▶ ARES Clearfield Canola Chemical
- ▶ And more!

The bus will be leaving from the Michichi Recreation area at 1:00 P.M. sharp so please arrive early.

For further information and to register please contact the Starland County Office at 712-3193 or Barry Mason at 364-2129.

Harmful Dugout “Algae” - what to do?

By Shawn Elgert and Murray Tenove, Alberta Agriculture and Rural Development

During the summer season, “algae” in dugouts can cause various problems such as plugging the pump, reducing livestock water consumption, or worse yet, poisoning of livestock or pets. Poisoning from algae can cause liver or nervous tissue damage that may potentially be long-term or even fatal. Blue-green algae, which are the most common potentially harmful type of bloom, are not actually algae, but bacteria called cyanobacteria. The term is derived from ‘cyan’ referring to the blue-green colour. When the air temperature rises during the summer the temperature of dugout water also rises, providing one of the optimal conditions for harmful blooms. It only takes small amounts of nutrients for some bacteria to grow. Bacteria are also able to survive on the bottom of the dugout throughout the winter and even though your water may appear to be clear in spring, a bloom could still develop. Sometimes a bloom may seem to appear overnight.

Since some cyanobacteria have the ability to control their buoyancy, they may sink (or rise depending on conditions) down further in the water column during the day. If they don’t have enough energy stored from the sun, overnight they can float to the top, giving the appearance of a very rapid bloom. Calm conditions after a windy day may also cause this apparent rapid bloom. Growth of cyanobacteria however can also be rapid.

Studies have shown that 80% of cyanobacterial blooms in Alberta are caused by



species that can harbour harmful toxins. There are many other different types of growths that can occur in dugouts including various species of weeds, algae or other types of bacteria. Many weeds and some algae can be treated with a registered aquatic contact herbicide or other appropriate treatment.

Diagnosis is therefore the first important step to determine what actions might be taken. Many harmful cyanobacteria blooms in dugouts appear as a blue-green paint slick with the appearance of grass clippings. Others look like pea soup. However, cyanobacteria that have other appearances can harbour toxins as well. Gloves should be worn if handling the bloom material as it may cause a rash. To determine if toxins are present, send a sample of the dugout water to an appropriate lab for analysis.

In order to ensure the best possible water in a dugout, it is recommended that beneficial management practices that protect the source water, such as grass filter strips, be implemented. In spite of good practices undertaken in the watershed, treatment may sometimes be required when a bloom has already occurred.

If there are suspended solids in the dugout as well as bacterial blooms, an aluminum sulphate and hydrated lime treatment is recommended. If potentially harmful cyanobacteria are present, it helps bind up the toxin at the bottom of the dugout where they will naturally degrade within the cell. A lime and aluminum sulphate treatment can be more difficult and expensive so other options may be considered if bloom control is the only result you are trying to achieve.

An inexpensive copper treatment can be applied for some blooms, however it will not work for all species. Copper treatment will release the toxins from the cells of toxin producing species and they may be consumed by animals, pets or wildlife. Released toxins can remain in the water for several weeks. The appropriate amount of copper to be used must be calculated carefully. Copper is not to be applied where the water may overflow and enter a public stream. Some copper products are not registered for farm dugout usage so check the registration number and contact the Pest Management Regulatory Agency to determine if particular products are appropriate for your situation. Copper products have been more difficult to find recently due to mandatory registration testing and increased copper prices but they are available.

A fairly inexpensive and simple preventative treatment can be done by adding a blue dye to the dugout to prevent photosynthesis, a principle component of cell growth. If you add the dye in early spring, it can help prevent initial stages of growth.

Timing of treatments should be done to maximize their chances of success. For instance, avoid doing an in-dugout treatment just before an anticipated runoff event. Runoff that washes a new load of contaminants into the dugout may nullify the first treatment and create conditions that require yet another treatment. Keeping a record of all dugout treatments and observation of their effect is very good practice.

For more information, contact Shawn Elgert, Alberta Agriculture and Rural Development.

8th ANNUAL

SOUTHERN ALBERTA GRAZING SCHOOL FOR WOMEN

M.D. of Ranchland Office,
Chain Lakes Provincial Park, AB
July 27-28, 2011

THIS YEAR'S TOPICS INCLUDE:
GRAZING PRINCIPLES & PRACTICES FEATURING JIM BAUER

New in 2011!

Electrofishing
Local Ranching Stories
Wildlife & Ranching

Herd Bull Selection
Electric Fencing Demo

Stocking Rates
Riparian Health
Range Health

Registration Deadline: July 18, 2011
Registration Fee: \$70.00 (meals included)
Register early as space is limited!

For additional information or to register, contact:

Amanda Halawell (abogen@cowsandfish.org)

Phone: (403) 451-1182 Fax (403) 274-0007

For a detailed brochure,
check out "What's New" at:
www.cowsandfish.org



Alberta *Fusarium graminearum* Management Plan

Background

Caused by the fungus *Fusarium graminearum*, fusarium head blight (FHB) is the most destructive fungal disease of barley and wheat in Canada. The occurrence and higher severity of FHB in cereal crops in western Manitoba and eastern Saskatchewan is cause for concern. The prevalence and severity of fusarium head blight in Manitoba and eastern Saskatchewan has caused major economic losses to producers and the grain export industry.

Fusarium graminearum infection greatly decreases yield, seed quality and produces mycotoxins (deoxynivalenol and zearalenone). It is estimated that Manitoba now loses 50 to 100 million dollars annually in wheat and barley due to loss of yield, access to malt and hog feed markets, increased transportation costs associated with sourcing mycotoxin-free grain and other impacts on end-use processing. Further movement west by this disease would be disastrous for the grain producing regions of western Saskatchewan and Alberta.

Alberta is currently free from any fusarium head blight outbreaks caused by *Fusarium graminearum*. Trace levels of *Fusarium graminearum* have been found in Alberta in a few instances, primarily in irrigated areas of Alberta. If this fungal disease were to establish in this province, it would become a major economic consequence to Alberta's cereal and animal feeding industries.

This management plan defines the prevention and control strategy that will apply under the authority of the Alberta *Agricultural Pests Act* to reduce the risk of *Fusarium graminearum* becoming established in Alberta. The plan provides the minimum acceptable standards/ requirements for the management of this pest within the province. Municipalities can enhance these standards within their own jurisdictions.

For more information contact:

Alberta Agriculture and Rural Development

Alberta Ag-Info Centre: call toll-free 310-FARM (3276)

Developed by the Provincial Fusarium Action Committee August 2002 (updated May 2009).

Objectives

1. Prevent the establishment of *Fusarium graminearum* in Alberta.
2. Prevent the increase and spread of *Fusarium graminearum* should it be found in Alberta.

Regulatory Status

Fusarium graminearum has been a declared pest under Alberta's *Agricultural Pests Act* since 1999. Alberta's *Agricultural Pests Act* is the legislative authority for enforcement of control measures for named pests in Alberta.

Pest inspectors may be appointed by the local municipality or by the Minister of Agriculture and Rural Development. By virtue of the office, an Agricultural Fieldman is a pest inspector under the *Agricultural Pests Act*. Pest inspectors have the power to enter land at a reasonable hour, without permission, to inspect for pests and collect samples.

The owner or occupant of land has the responsibility of taking measures to prevent the establishment of pest on land, property and livestock and to control or destroy all pests on or in the land, property or livestock.

Enforcement of pest control measures is the responsibility of the municipal authority; the Agricultural Fieldman is responsible for enforcing pest control measures in their municipality.

The control measures for *Fusarium graminearum* are specified in this management plan. It is important to understand that these control measures represent the minimum standard that is to be applied in all municipalities across the province. Municipalities have the authority to increase the level of control for any named pest in their municipality.

Risk of the Spread of *Fusarium graminearum* into Alberta

The presence of a virulent pathogen in sufficient quantity is a requirement for the development of disease. All survey information currently available demonstrates that *Fusarium graminearum* is not commonly found in Alberta.

A progressive field-to-field yearly spread of *Fusarium graminearum* could theoretically eventually bring large quantities of *Fusarium graminearum* into Alberta; however, this process would likely take 10 to 20 years. The long distance spread of wind-borne ascospores in "spore clouds" into Alberta from eastern Saskatchewan and Manitoba is also improbable. Dispersal of ascospores occurs over relatively short distances. Ascospore survival is significantly reduced after exposure to the UV radiation that would be encountered by an airborne ascospore. It is expected that less than 1% ascospore survival would occur after 3 days of field exposure to natural UV radiation from the sun.

Alberta's environment is not a barrier to the establishment of *Fusarium graminearum* in this province. Once the pathogen establishes, it will readily overwinter on infected crop residue.

***Fusarium graminearum* is a seedborne pathogen, and infected seed or feed grain represents the greatest risk of introducing *Fusarium graminearum* in quantities sufficient to cause disease development.**

Full Details at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/)



Growing Forward 2

Agriculture and Agri-Food Canada and provincial and territorial governments want to hear from Canadians and agriculture industry representatives to develop the next agricultural policy framework – Growing Forward 2.

GF-2 will build on the successes of the existing programs and leverage the ingenuity of farmers, processors and others in the sector to continue to generate economic growth. To support the development of GF-2, farmers, processors, distributors, manufacturers, retailers and consumers are being engaged to gain insights and to hear what they have to say about the future of the sector.

Funding Opportunities

Integrated Crop Management will re-open to accept applications for one month beginning **July 25th, 2011**. Applications received by ARD in the Edmonton office by August 26th, 2011 will be reviewed. Anything received after August 26th, 2011 will be returned to applicant.

Manure Management

- The **Manure Management programs** is accepting applications on a continual basis. Old Applications and Workplans will be accepted up until the end of July 2011. Thereafter, only new forms will be considered.

There is a submission address change for Manure Management documents.

- There is limited funding available for the program.

Grazing and Winter Feeding

- For the Grazing and Winter Feeding Management applications continue to be accepted on a continual basis. Old Applications and Workplans will be accepted up until the end of July 2011. Thereafter, only new forms will be considered.
- There is limited funding available for Grazing and Winter Feeding Management.
- Producers will be encouraged to read the Terms & Conditions before submitting an application, and ensure they read the declaration statement that is part of the application form.



A Message from the Village of Delia

The Village of Delia would like to remind all farmers that farm trucks must follow the designated truck route within the Village limits. Thank you.

For Immediate Release:

Alberta Farmers Hope Crops Avoid Damage as Hail Season Approaches

With the Threat of an Active Hail Season Ahead, AFSC is Ready

With crops finally in the ground, and another hail season fast approaching, farmers are hoping speculation that 2011 could be an active hail year for Alberta proves to be wrong.

"A lot of farmers have been telling me they're concerned this could be a big hail year because of the extra moisture we've had across the province this spring once all the snow melted and it rained on fields that hadn't dried out from last year," says Brian Tainsh, Provincial Adjusting Manager with Agriculture Financial Services Corporation (AFSC), the Crown Corporation that administers crop and hail insurance in Alberta on behalf of the provincial and federal governments.

Soil moisture is especially high across southern Alberta and along the foothills west of Highway 2, from Drayton Valley down to the U.S. border. "Experience has shown when there's this much moisture laying around, you can often wind up with a fair bit of hail," says Tainsh.

More Rain Increases Risk

Geoff Strong, a meteorologist and adjunct professor at the University of Alberta who studies thunderstorms and hail formation across the province, agrees that increased moisture on the ground increases the risk of hail. "With the soil moisture we have in many parts of the province, I think we'll see some fairly active hailstorms throughout the summer," says Strong, explaining the more saturated the soil becomes, the more humidity that grain crops, soggy fields, and other vegetation release into the air, feeding hail-producing thunderstorms. "I expect we'll see the most hail activity in central and southern Alberta where it's the wettest, and less in regions that are drier. Of course, the more it rains in any area of the province, the more the hail risk increases."

Provincial soil moisture maps in early June show the Peace region and northeastern Alberta are generally the driest areas of the province. "But we still have part of June and all of July ahead of us – the two wettest months of the year – so everything can change quickly. If the Peace region and northeastern Alberta get 8-to-10 cm of well-timed rains in each of June and July, their crops should be fine for soil moisture," says Ralph Wright, provincial soil moisture specialist with Alberta Agriculture and Rural Development.



As Alberta crops begin to grow and another hail season approaches, Brian Tainsh, Provincial Adjusting Manager with AFSC, says many farmers are concerned this could be a big hail year due to high moisture conditions in various parts of the province. He says AFSC Straight Hail insurance is available at any time once crops emerge, and takes effect the next day at noon after a policy is written. Tainsh adds producers have around-the-clock access to hail insurance online again this year.



Three Key Ingredients for Hail

Unfortunately, what's good for crops is also good for hail, says Strong, noting the three key ingredients for hailstorms are soil moisture, surface heating, and a triggering mechanism, such as an approaching weather system or a dry breeze that flows down from the mountains, clashing with moisture over the foothills to trigger a storm.

Alberta gets more hail than anywhere else in Canada, with most hailstorms forming over the foothills, says Strong. With soil moisture high along the foothills in early June, from Drayton Valley down to the U.S. border, that extra moisture could easily produce hailstorms in the coming weeks that move easterly across central, southern and northeastern Alberta – intensifying as they pick up more moisture over the crop zones, explains Strong.

Last year proved even cool, wet weather can produce large amounts of hail, says Strong, pointing out that temperatures in the low-to-mid 20s are enough to bring on the most severe weather.

\$164 Million in Hail Damage Last Year

Hail blanketed much of Alberta last summer with crop damage reported in almost every part of the province because of frequent rain throughout the growing season. AFSC paid out more than \$164 million in hail claims. Even the Peace region was hit by a few hailstorms, despite dry conditions. No corner of the province is safe from hail, says Strong. “Even in drought years, we’ve seen hail form along the periphery of extremely dry zones.”

More Adjusters

With the threat of an active hail season ahead, Tainsh says AFSC is ready. “We’re hiring 10 more adjusters than last year, for a total adjusting force of about 140 people. They’re all equipped with GPS units and laptops, so they can file claims right from the field – making the process as efficient as possible so farmers can get paid quickly,” he explains. “We added the GPS units this year so adjusters can locate fields faster and record exactly where plant counts are taken in case hail strikes the same field twice and they have to return.”

Tainsh says a large number of producers purchased hail insurance online last year – more than 10 per cent of all Straight Hail policies. “This will be only the second year that we’ve offered the online option. We’re expecting a lot of repeat users, as well as producers who decide to use it for the first time because of the two per cent premium discount and the flexibility of having access to hail protection day or night, without having to drive into town.”

Online Purchasing Website – Faster and Simpler

AFSC has made improvements to the online purchasing website this spring that should make the process faster and simpler for farmers, says Tainsh. “Producers with larger operations will now be able to list more of their land on one screen so they don’t have to page through as many sheets.”

AFSC Straight Hail insurance is available at any time once crops emerge, and takes effect the next day at noon after a policy is written. For more information about hail coverage, producers can contact their nearest AFSC office, hail agent, or call the AFSC Call Centre at 1-877-899-AFSC (2372).