SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Fit for Harvest: Tips for Managing Harvest Stress

By Lesley Kelly, Do More Ag

Harvest is a stressful period. Combine that with poor weather, market conditions and balancing the needs of family, staff, and the farm can have a negative and long-lasting impact on farmers and their health. It's during these stressful and busy times of the year that we are most likely to ignore the most valuable asset of the farm – ourselves.

The physical and mental stress of farming can take a toll on a farmer's health. Ignoring these signs of stress can lead to fatigue, depression, anxiety and other mental health illnesses, an increase in the risk of accidental injuries, poor decision-making and more.

The most common signs of stress during harvest are:

- Headaches
- Frustration & Impatience
- Irritability & short tempered
- Forgetfulness & Fatigue
- Withdrawing from others
- Overeating/neglecting diet
- Difficulty sleeping

How we take care of our health during harvest will be very different from how we take care of ourselves during other times of the year. It is still very important to continue to take care of yourself during stressful and busy times. Doing small things throughout harvest can have an immense impact on your overall health and help to reduce and manage stress.

I asked farmers on social media what they have done that have helped them manage and alleviate stress during harvest.

Taking breaks is important to help your body and mind recover and recharge.

"Don't get overtired if possible but that doesn't always work. Afternoon naps for 15 minutes really help me. Eat well and don't dwell on small mistakes because it can cause you to make bigger ones sometimes. Set manageable goals for the day." @KowalchukFarms

"There are a few things that help us. Guaranteed Sundays off. Suppers in the field at harvest time. Extra semi so we can send my dad home off the combine earlier and just fill trucks. At least 30 to 45 minutes of downtime when I get home in the evening, even if it's at 2 a.m." @RonKrahn

Having fun can be a morale booster and help maintain a positive mindset.

"We always make sure we have something fun planned and some quality time as soon as the busy time is finished. Once we know it's in the calendar, it's something to look forward to." @Peterhynes15

"Have to keep things light. Lots of joking around and having fun. Also, take time for one sit down meal where you all get together. Make it a good meal where it's something to look forward to each day. These two things go a long way." @DougSnowbanks

A supportive team and network around you can help get the work done, create a positive atmosphere and culture and listen during hard times.

"Do not be afraid to remove, under-performing or toxic people. It's amazing how quickly morale of everyone can spiral down or up based on everyone's contributions and attitude." @rgstone1

"*Focus on what you are good at and hire and delegate the stuff you aren't. Getting surrounded by folks with motivation and problem-solving skills has been my number one de-stressor."* @MaizeingPete

There are many factors that are outside of our control in farming.

Accepting stressors outside of our control and effectively managing stressors within can help reduce stress.

"Adopt the mindset that it is a marathon and there will be obstacles, setbacks, and difficulties." @MarkPGuy

Stress relief like breathing and calming exercises can help in the moment when stress is high.

"Taking it day by day. Taking a few moments to breathe, and focus on something else. Even if it's just 5 minutes." @farmgirlfran

Taking care of your physical health is helpful as well during harvest.

"Maintain a steady intake of water and food, go easy on the caffeine, use a pocket size note pad to record and unload mental clutter onto paper, stretch your muscles to start the day and during, and listen to programming that provides positive energy." @PTimeFarmer16

After harvest, allow yourself to recover and recharge which may include a short getaway or a day of rest and relaxation. Whether it's during harvest, or anytime, seek help when you need it. When stress is overwhelming or if you or someone in your family or farm team are going through a hard time, reach out to a friend, loved one, or professional help. Do More Ag is continually adding to this list of resources.

The Do More Agriculture Foundation is not intended to be a substitute for professional medical advice, diagnosis, or treatment. If you are in crisis, please visit your local emergency department or call 911 immediately.

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Absinthe Wormwood Control Up to Producers

If there is one range plant Special Areas Agricultural Fieldmen receive more complaints about than any other, it is Absinthe Wormwood (*Artemisia absinthium*). You may have noticed it grabbing a foothold in the last few years, that tall silver, sage-looking plant with the strong smell.

While this perennial herb is <u>*not*</u> listed as noxious on the Alberta *Weed Control Act*, it certainly is a nuisance. It is native to Europe and Asia but was introduced into Canada in the 1800s and since flourished. This woody-based, bushy plant overwinters as a rosette with a taproot, then flourishes the following season by bolting in July. While it only reproduces by seed, it is easily spread through wind and water via tumbling stems. Seeds can remain viable for 3-4 years. It appears to be allelopathic, that is producing a biochemical that prevents other plants growing nearby.

Disturbed sunny areas are where this weed loves to take root. Abandoned cultivation, heavy traffic areas (often in farmyards), and heavily grazed pastures are ideal habitats. We even have complaints of this weed in grazing corn crops. Because it loves moisture, this year has seen quite an increase in complaints.

Not grazed well by livestock or horses, Absinthe Wormwood stems will also regrow after mowing. Late season tillage may be an option to kill overwintering rosettes, but tillage is not often recommended in Special Areas due to sensitive soils. The most effective control is hand pulling or digging followed by burning or double bagging and taking to the landfill. Do not compost. No biological control agents currently exist.

In range and pasture situations, targeted herbicide applications can be used. Herbicides containing aminopyralid, such as Reclaim, can provide residual control. This pasture herbicide will not affect the grass, but will control broadleaf species for multiple years, and can be grazed without any restrictions. Be sure to read and follow all directions. This product is not registered for use in crop situations. Targeted applications of glyphosate can also be used.

Absinthe Wormwood as a first year plant

Because this is an annual weed overwintering as a rosette, fall applications of herbicide can be very effective. After the first light frost (-1◦C to –3◦C), but when temperatures are still conducive to plant growth (above 8◦C during the day for at least two hours), winter annuals and perennials will be actively sending resources to their roots to prepare for winter. **Systemic herbicide applications at this time will result in greater translocation of product to the root zone and a better whole plant kill.**

The neighboring County of Stettler has up-listed this weed as noxious, meaning their Ag Fieldmen have the ability to write weed notices to landowners requiring they *must* control it. It is also noxious in Saskatchewan and Manitoba through their provincial weed legislation.

Second year plant after bolting

While this topic has been brought up to Special Areas Agricultural Service Boards, ASBs in this region believe until landowners take responsibility for the already provincially mandated noxious weeds, they don't want to add another one to the list.

For now, Special Areas Ag. Fieldmen recommend controlling this nuisance plant through best management practices including reducing overgrazing, promoting healthy rangelands, reducing tillage and immediate removal of the plants when observed.

Resolution Deadline Approaching

Agricultural Service Boards (ASBs) use the resolution process to elevate producer issues. Each fall ASBs meet with their regions to vote on resolutions to be brought forward to the provincial ASB conference. From there, passed resolutions are then brought forward to respective ministries or organizations to address the topics. You can see the 2020 (and previous) resolutions here.

If there are particular issues you would like your ASB to address, please contact your local Ag Fieldman or an ASB member before October 1st.

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It's Not Too Late for Weed Control!

NOXIOUS

Canada Thistle *(Cirsium arvense)*

Yes, Canada (or Creeping) Thistle *is* listed as noxious on the *Weed Control Act.* This aggressive perennial sure knows how to colonize! Canada Thistle spreads not only by its creeping root system, but a piece of root or stem (think mowing) can actually reproduce to form a new plant. The best preventative measure is to maintain healthy plant cover, however, if you already have this nasty weed present, now is the time to think about controlling it. ***Perennials with deep root systems respond best to herbicide applications in the fall, especially after the first light frost.*** This signals to perennial plants to prepare for winter by sending all of their energy reserves into their roots. A systemic herbicide application at this time will be shuttled deep into the root system, giving the best kill all year. There are lots of registered herbicides for Canada Thistle control depending on the vegetation surrounding. Clopyralid (Curtail–M), picloram (Grazon) and metsulfuron-methyl (Reclaim) are just a few very popular choices in grass infestations. Always read & follow the label directions.

Narrow-Leaved Hawk's Beard *(Crepis tectorum)*

While this pesky plant is not on the *Weed Control Act,* it certainly does cause producers a lot of heartache. Narrow Leaved Hawks Beard (NLHB) forms low rosettes in the fall, overwinters, then flushes in the spring. Reproducing only by seed, a second flush will happen in August–September. This winter annual life cycle makes it a strong competitor to crops and forage first thing in the spring, but also makes it a prime target for fall herbicide applications.

This weed has really gained a foothold in the Special Areas recently with reduced tillage practices and Ag Fieldman are receiving more calls each year. ***A single plant can produce up to 50,000 seeds viable for up to five years!*** Herbicide selection will depend where the infestation is, however 2,4-D, glyphosate, and florasulam are some options. Always read and follow label directions.

NUISANCE

NOXIOUS

Yellow Toadflax *(Linaria vulgaris)*

This perennial is listed as noxious on the *Weed Control Act* (must control) and is usually seen flowering July–September in the Special Areas. Yellow Toadflax is often mistaken for snapdragons, but the invasive nature of yellow toadflax certainly sets this plant apart. If trying to differentiate, toadflax always has spurs at the base of the flowers whereas snapdragons will not. Because it has an extensive creeping root system (rhizomes) in addition to it setting seed, this weed is often found in dense colonies, crowding out other vegetation. Leaves are long, lance-shaped in an alternate pattern, similar to Leafy Spurge. Dalmation Toadlfax is a close relative, also on the *Weed Control Act* as noxious, but has heart -shaped, stem-clasping leaves. ***Toadflax is not palatable to livestock and therefore grazing is not a suitable control method.*** Hand-pulling often doesn't work well unless you can get all of the root pieces, as it will regenerate. Repeated cultivation may work, but is not advised in Special Areas. Chemical control can be achieved through various registered products. Several biological controls are available.

BEWARE: Forage with noxious weed species can be DESTROYED by Agricultural Service Boards to prevent spread, including bales. Don't take a chance – Inspect & Control!

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Preparing Trees & Shrubs for Winter

By Toso Bozic , Yard Whispers

Alberta's harsh winter conditions can damage trees and shrubs.

Cold Winter Damage and Prevention

Cold winter damages can happen due to the tree's inability to survive cold weather, lack of snow in some parts of Alberta, strong cold and dry winds, heavy snow and ice in late fall or early spring. There are few things you can do to help avoid cold winter damage.

- *Choose hardy trees and shrubs that can withstand cold temperature.* Alberta belongs to Canada Cold hardiness zones 1, 2 and 3 and partly zone 4. So choosing trees and shrubs hardy enough for our climate is the first step to protect them from cold winter
- *Plant trees and shrubs in protected areas around buildings or established tree shelters.* This will help them avoid direct exposure to strong wind and potentially increase snow cover (an excellent insulator).
- Properly prune plants to reduce the number of branch breaks during heavy snow or ice

Root Injuries and Protection

Root injuries due to cold are one of the most impactful damages trees and shrubs can sustain. Roots do not become dormant at the same time as branches, buds or trunk/stems. Several studies show roots remain mostly active. Roots can and do function and grow during winter months whenever soil temperatures are favorable, even if the air above ground is brutally cold.

The freezing, heaving and cracking of winter soils physically damages roots – particularly the fine feeder roots in the uppermost organic layers. These root damages can also trigger a range of effects such as reducing a tree's ability to take up water and nutrients, particularly during a spring bud break, and to support stem and branch growth in summer. Severe root damage from winter will greatly contribute to whole tree mortality or at least parts of the trees.

Protecting roots is the most important thing that you can do for trees and shrubs.

Here are several things you can do to reduce root injuries on your trees and shrubs:

- *Provide deep watering just before freeze (young or old trees).* Frozen water is an excellent insulator and will reduce frost penetration to the root zone. Moist soil holds more energy than dry soil. Once the soil is dry, it is easier for the frost to penetrate deep and dry out roots. The freeze will take moisture from roots and create crystal icicles in the roots which will create physical damages to the root system.

  The best way to water is slowly with a soaker hose approximately at the rate of 10 gallons (around 40 liters) per inch of tree diameter (tree diameter is measured at breast height).

- *Mulching is the most important root protection you can provide*. Mulching provides a few key functions: prevents weeds, protects roots from extreme heat and keeps moisture around trees.

  Create a donut-shaped wood chip cover around your tree to keep water inside. Applying 2-4 inches (5-10 cm) of wood mulch will greatly reduce soil freeze. A layer of 3-4 inch of woodchips mulch will prevent heaving by maintaining more constant soil temperatures.

- *Good deep early snowfall will keep soil from freezing even if the air temperature is brutally cold.*

  If snowfall happened after soil is already frozen, deep snow will protect roots from January or March-early thaws when the temperature fluctuates

- *Fill the cracks in soil around trees, including newly planted ones.* Filling up these cracks with soil to prevent cold air from entering the soil. Mulching would also prevent this as well.

- *Fertilize at the right time.* If you have a sandy soil you may fertilize in the spring or the fall. On heavy clay soil fertilize after the leaves have dropped.

- *Leave leaves.* Instead of disposing of autumn leaves, keep leaves on the ground, mulch or blend them into the soil to retain nutrients. Be very aware if you have some leaf disease you have to rake leaves to avoid future problems with diseases.

Mulching is the most important activity that you can do to prevent root damages from winter freezing and reduce the possibility of root damage and tree mortality. Mulching provides a few key functions: prevents weeds, protects roots from extreme heat and keeps moisture around trees.

Wildlife Damage & Prevention

Winter is harsh for many wildlife species, so they often can look for food on young and recently planted trees. Several wildlife species will create damages to your young trees. Mice, voles, rabbits, deer and moose will griddle and eat the bark, twigs, branches and buds by feeding on them. They can create severe damages- total or partial destruction of trees and shrubs.

There are a few things you can do such as erecting physical barriers to prevent damages.

- Use mesh wire (1/4 inch in size) to protect trunk bark from mice, rabbits, voles and to some extent deer and moose. Deer and moose will strip bark either by eating or using their antlers
- Use plastic tree guards for small animals
- Properly install mesh wires of plastic tree guards with no gaps between the bottom of the mesh cylinder and the ground where animals could crawl under the fencing

Looking for mulch for your shelterbelts? Special Area's Youngstown Service Center sells mulch for $30/yard & GST. Call (403) 779-3733 prior to arrange loading & pick up.

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Preparing Trees & Shrubs for Winter CONT'D

- Build a large fence for deer or moose. Use some repellant as well.

Salt Damage & Prevention

Various salts (chlorides) are used to prevent ice from forming on the road in Alberta. Among them, sodium chloride is one of the most damaging agents on trees and shrubs as some studies show.

There are several things you may able to do to prevent or reduce damage from salt on your trees and shrubs this winter.

- Avoid or reduce the amount of salt used for de-icing
- Plant salt-tolerant trees and shrubs in the area with high use of salt
- Use other alternative de-icing material such as sand or small gravel
- You may put some trees under burlap to prevent salty spraying particles on the trees
- Move trees and shrubs further away to avoid salt damages

Pruning

After leaves drop in the fall, you may consider pruning dead, diseased and damaged (3D) branches from your trees and shrubs.

Any infested branches should be disposed of or burnt. Perform proper 3-way cut pruning techniques and do not damage the branch collar during this process.

Otherwise, avoid pruning during this time of year as this may create additional stress to the tree.

A broken branch that needs to be removed. Proper pruning allows the tree to heal a wound.

Fall Tree Planting By Toso Bozic , Yard Whispers

Fall is a good time to plant larger caliper trees in your property. A "caliper tree" is an older tree with at least 4 cm in diameter in stem/ trunk measured 15 cm above ground level. "Large" caliper trees are 10 cm in stem diameter and are measured 30 cm above ground level.

Generally early spring in Alberta means the soil is dry and little humidity in the air. During fall tree planting, moisture is often higher in the soil due to summer and fall rain with higher humidity. Higher moisture levels and a large root ball gives the root system a better chance to get established and get growing earlier in spring.

Caliper trees are prone to transplanting shocks, meaning you should be using some specific planting techniques. There are several steps to consider before planting caliper trees in your property.

Tree species selection

Tree species diversity is crucial for the health and wellbeing of your property. A variety of trees and shrubs species can be found in Alberta that theoretically should not be grown here due to our harsh climate condition.

Despite these challenges, many introduced ornamental trees and shrubs are doing just fine in our cities and towns. Introduced ornamental tree and shrubs provide a great beauty and diversity alongside native tree and shrubs species. You would be surprised to see the variety of oaks, maples, ashes, lindens, pines, spruce Douglas and balsam fir, or Ohio buckeye growing in your city or town.

The variety of very hardy flowering trees and shrubs is an even bigger choice. Check with your local parks manager, horticulturists or arborists what they can share about which trees are the best choice in your region.

Planting site

This is a very important step to ensure a successful and long-lasting tree on your property. Make sure you are using "the right tree on the right spot" kind of thinking when planning your planting site. This means you should know what trees or shrubs require, and place them in the best possible site.

Things to pay attention to? Pay attention to things like soil, moisture, slope, exposure and physical barriers like a house, fence, or power line to avoid potential future problems trees can cause in your yard, home and buildings.

Before you choose the planting site, visit places where trees are mature to get a sense of how much space it will require.

BREAKING NEWS: Dutch Elm Disease identified in Lethbridge. For symptoms and more information visit: www.stopded.org

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Fall Tree Planting CONT'D

Planting stock

Keep in mind these types of trees and shrubs are much bigger than smaller seedlings you may plant in the spring. Usually, late in the season many trees and shrubs are on sale at local tree nurseries or various retail stores. They come in containers or baskets and burlaps.

Container stock

Typical black container stock comes in various sizes, and a thorough inspection is necessary before buying these. Pay close attention to any broken branches, weak branch crotches, signs of insect or disease and irregular shapes. The most important thing to check is looking for signs of a bound root system. If you see the roots already coming out of the container, most likely the root system is bound and can create problems in the future health of your trees. If you see the roots are excessively bound or the trees are damaged – simply don't buy it.

Balled and Burlap trees

These are usually larger caliper (diameter) trees which have been dug up, balled in a wire basket and wrapped in jute burlap. Inspect the overall health of the tree before buying.

Planting

This is where most people kill their trees before giving them a chance to grow. Proper planting is the most crucial part of your process. If you bought a plastic container stock, very carefully remove the soil by either shaking, soaking or washing it with a hose to reveal the root system. By doing this you will be able to see potential circling, hooking or girdling problems with roots. You may need to do proper pruning or remove the roots that girdle the trees.

Plant so that roots are just below the surface. Dig a hole that is as deep as the roots, but twice as wide. The wide hole will make it easier for the new lateral roots to grow into the surrounding soil. For a basket and burlap tree, properly fit it into the hole, then remove the burlap and cut the wire on top before filling the hole with soil.

Staking

Small trees in a protected area don't require staking. In an area exposed to high wind with trees that are tall and leggy, staking will be needed.

Don't forget that after a few years you will need to remove stakes.

Mulch

Mulching provides a few key functions: it prevents weeds, protects roots from extreme heat, and keeps moisture around trees. Mulch also protects tree roots from winter freezing and reduce the possibility of root damage and tree mortality. Create a donut-shaped wood chip cover around your tree to keep water inside. Putting wood chips next to the trunk attracts rodents, insects and potential diseases.

Watering

After tree planting make sure that you provide enough water prior to freezing. The amount of water depends on the soil and the tree species' requirement for water. Water right after planting, and again three days after that. Don't let your tree get dry. If you can easily push a 6-inch screwdriver into the soil, there is enough water. Drip irrigation is a long term solution for watering your trees; turf irrigation may not be optimal.

Fertilization during fall planting is not recommended or necessary unless there is nutrient deficiency in heavy clay soils. In heavy clay soils, you should be fertilizing trees and shrubs after leaves drop in the fall.

Agriculture & You:

Teaching Resources for Kindergarten to Grade 12

Many producer commodity organizations have shared some teaching resources you can use to teach about agriculture that compliment Alberta curriculum.

Here are just a few to get you started:

- All For the Beef *(Alberta Beef Producers)*
- Classroom Agriculture Program
- Ag In the Classroom
- Learn Canola *(Alberta Canola Producers Commission)*
- Journey 2050 *(Nutrien)*
- More About Milk *(Alberta Milk)*
- Project Agriculture (*Alberta Chicken Producers)*
- Classroom Support Program *(Alberta Pulse Growers)*

DYK? Funding is available for **up to 50% of shelterbelt establishment costs** through the Environmental Stewardship & Climate Change Producer Program

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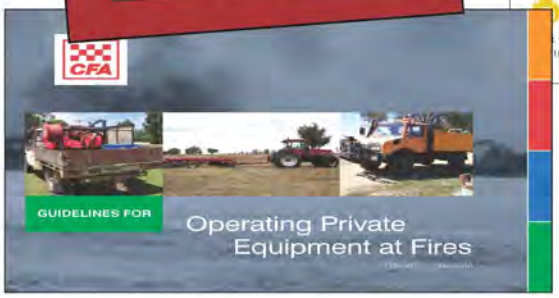
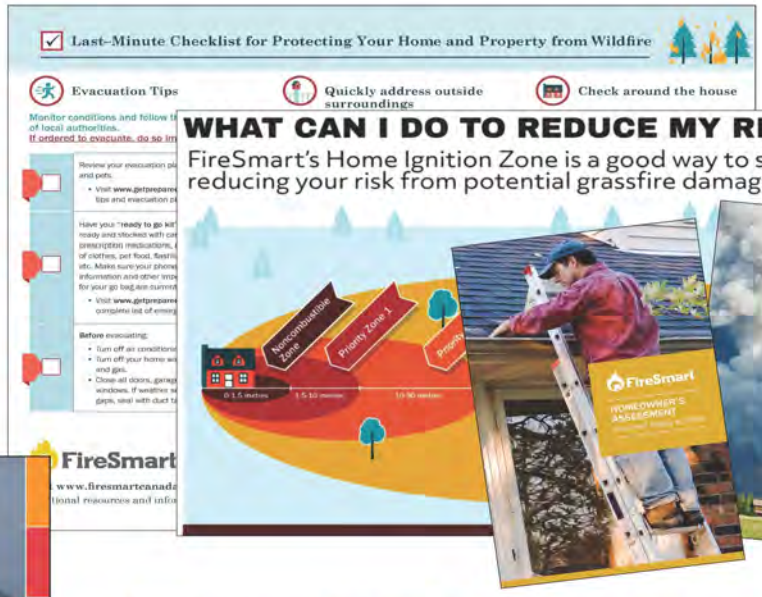
Special Areas Board
EST. 1938

GRASSFIRE SAFETY TOOLKIT

Now available - get yours today!





The Grassfire Safety Toolkit is full of useful information to help you prepare for, respond to, and mitigate damage from grassfires.

Grab one and learn how you can start reducing your grassfire risks today.

Location	Type of Fire Extinguishers Recommended
Workshop	10 pound dry chemical, multi-purpose ABC extinguisher 5 pound dry chemical ABC extinguisher
Barns	10 pound dry chemical, multi-purpose ABC extinguisher 2.5 gallon pressurized water extinguisher
Farm Vehicles	5 pound dry chemical, multi-purpose ABC extinguisher
Combines	10 pound dry chemical, multi-purpose ABC extinguisher 2.5 gallon pressurized water extinguisher
Balers	2.5 gallon pressurized water extinguisher
Tractors	10 pound dry chemical, multi-purpose ABC extinguisher
Silos	20 pound dry chemical, multi-purpose ABC extinguisher 2.5 gallon pressurized water extinguisher

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Fusarium Head Blight Downgraded, Remains A Threat

You may have heard the news – *Fusarium graminearum* (Fg) was removed from the Alberta *Agricultural Pests Act* Pest and Nuisance Control Regulation on June 1, 2020. This decision was made with the support of commodity groups over several years to shift away from regulatory based control and towards an extension and education of best management practices approach.

While the first report of *Fusarium graminearum* in Canada was in 1919, the disease didn't make its way to Alberta until 1989. In 2016, 26.5% of survey samples tested positive for *Fusarium graminearum*, triggering the removal of the disease from the *Act,* focusing on an education approach. Municipalities in Alberta work with Alberta Agriculture to conduct annual *Fusarium graminearum* surveys, including the Special Areas. You may even see staff cutting wheat heads in your fields!

Fusarium graminearum is one cereal fungal disease strain that causes Fusarium Headblight (FHB), affecting kernel development, reducing yield and grade. This fungus favours warm humid conditions during flowering and early kernel development. It can produce a dangerous mycotoxin called deoxynivalenol (DON). DON is a serious contaminant of livestock feed that causes reduced feed intake, immune responses, and reproductive dysfunction. In the Special Areas, testing of feed can be done through Chinook Applied Research Association (CARA) or through private labs. This testing will help ensure *Fusarium graminearum* and DON levels are not a risk for your livestock operation.

Fusarium graminearum can also be costly for your crop enterprise. Yield is reduced but the real loss comes from lower grain grades, a result of the human consumption risk and reduction in milling quality.

Photo courtesy of Alberta Agriculture showing bleached wheat kernels from FHB infection

Fusarium Headblight is recognized in wheat in the field by premature bleaching of one or more infected spikelets. This is the most apparent during early milk and hard dough stages. Orangish/pink spore-bearing structures at the base of the glumes then form. In barley, symptoms are not as easily noticed, with brownish discoloration of spikelets. In later occurring infections you will see shrunken, chalky white or discoloured grain kernels, sometimes referred to as 'tombstones'.

Managing this disease starts early with crop planning and continues with proper in season management. At this time of year, there are important measures you should be taking to prevent downgrading your crop.

The Alberta *Fusarium graminearum* Management Plan suggests producers can take the following steps:

1. Adjust combine fans to blow out light weight infected wheat kernels (tombstones) or use chaff collection on fusarium affected fields (*do not use chaff or straw for livestock feed) .
2. Consider harvesting early as DON will continue to spread in grain over 19% moisture.
3. Thoroughly clean equipment used to harvest infected fields before moving to clean fields.
4. Thoroughly chop and spread straw to encourage decomposition and reduce pathogen survival.
5. Bin infected grain separately.
6. Avoid or limit storage of grain/grain products in uncovered piles or in direct contact with soil as soil moisture promotes growth of *Fusarium graminearum.*
7. Control volunteer cereals and grassy weeds on infested fields.
8. Infected grain must not be allowed to come in contact with the soil as this would allow *Fusarium graminearum* to establish foothold in roadsides.
9. Send in samples for testing to document and confirm any risk of Fusarium Headblight.

The pathogen causing Fusarium Headblight overwinters in crop debris and residues of small grain cereals and corn. This allows for spore production and reinfection of a cereal the following year if crop rotations aren't properly managed. If you notice these symptoms this fall be sure to avoid cereals for the following two years and consult your Ag Fieldman to develop a control strategy. To learn more, visit www.managefhb.ca.

Common Baby's Breathe *(Gypsophila paniculata)* is a noxious weed as per *Alberta's Weed Control Act.* It was added in 2011 due to its invasive nature and ability to spread rapidly as a tumbleweed. *One plant can produce up to 14,000 seeds!* This perennial is extremely drought tolerant due to its massive woody root system that can grow up to 4m in length (think of how much water a plant can steal from your hay crop!)

This plant is NOXIOUS and by law it MUST be CONTROLLED by the landowner. Contaminated feed should not be moved.

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It's Time to Start Thinking About Feed Testing

By Beef Cattle Research Council

With cattle feed being swathed, harvested, or already in the silage bunk, now is the time to start thinking about testing feed. Although it is best to feed test as close as possible to the day the animal will be consuming it, testing now - as well as again closer to the time of feeding - can help you determine if supplemental feed will be needed and provide time to source it.

A common question from producers is, now that I have my feed test results, what do I do with it? What do all those numbers mean? And how do I make use of this information on my operation?

Recognizing the need for information to help producers better utilize their feed tests, the Tool for Evaluating Feed Test Results was developed by the Alberta Beef, Forage and Grazing Centre. This tool allows you to input the results of your feed test along with the class of animal you intend to feed and it will give you a **green light** (OK to feed), **yellow light** (be cautious if feeding as a stand-alone feed source), or **red light** (don't feed this as a stand-alone feed source).

Please note this tool is not intended for use in ration balancing, but rather to alert you to potential issues with individual feed ingredients.

It is strongly recommended producers seek advice from a qualified professional to develop a balanced ration or familiarize yourself with ration balancing software like CowBytes.

Feed testing helps to understand the nutritional quality of your feed and provides details for ration formulation. This information can add value to your operation as you make day to day management decisions. Having a feed test can help you decide which class of cattle should receive certain feeds and which stages of production will require different quality feed sources.

Who to feed?

Different classes of cattle have different nutrient requirements. This means a feed source that would not work as a stand-alone feed for one group of cattle might meet or exceed another class of cattle's nutritional requirement. Understanding the nutrient content of your feed will help you match the feed source to the class of cattle being fed.

For example, the hay in one sample could be fed as a stand-alone feed to mature cows in mid gestation, but would not have enough energy (total digestible nutrients, TDN) for backgrounding cattle where the producer is targeting a 2.5 lb per day gain.

When to feed?

Cows' energy demands change throughout their annual production cycle, so testing feed provides information needed to determine the best time to utilize a certain quality of feed.

For example, the feed source below would work as a stand-alone feed for mature cows in mid gestation but would not meet requirements for magnesium and is borderline low for energy (TDN), calcium and phosphorus for lactating cattle. So, it would be best to use this feed source in mid gestation and find a feed with a higher TDN value and consider some additional mineral supplementation to support the nutritional requirements of your cows during lactation.

Did You Know? There are five COMMUNITY PASTURES operated by the Special Areas Board. Want to know if you are eligible? Call the Hanna District Office at (403) 854-5625.

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Feed Testing CONT'D

Identifying feed quality issues

Having feed test results can help to identify if a feed source presents serious nutritional problems. Either excesses or deficiencies in minerals can cause reproductive problems in cattle.

Depending on the feed source being tested, you may also want to include testing for nitrates or mycotoxins to determine if the feed is safe for cattle to consume. Deficiencies in most nutrients can be remedied by providing additional supplementation. Testing feed doesn't take long and is cost effective, when considering the impact it can have in the prevention of reproductive wrecks, health issues, or even death.

For more information on feed testing, including how to take samples, where to send them, and the Tool for Evaluating Feed Test Results, check out the Feed Testing & Analysis for Beef Cattle page at www.beefresearch.ca.

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- CowBytes Tool training for producers
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SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Symbiosis Series: Cows & Crops

A new addition to our newsletter is our Symbiosis Series. In this feature, we will be looking at relationships within agriculture that can be mutually beneficial to producers. First up is the use of crop residues to extend cattle grazing into the fall and winter.

This isn't a new concept, but mixed farming-ranching operations have seen a reduction over the years with producers tending to go with either farming or ranching. With the rising costs of equipment and inputs, many ranchers have steered away from cropping smaller acres. One way ranchers can access crop residues for grazing is by forming partnerships with farmers in their area.

Grazing crop residues can be a very low-cost way to feed cattle into the fall and winter, but there is lots to consider before jumping in.

Crop residue nutritional values will depend on the crop type, maturity at harvest and the efficiency of your harvest equipment. You can also choose whether or not to catch the residue by bunching either the chaff only or chaff and straw. Generally, chaff alone will have higher feed quality than chaff and straw together. Saskatchewan Agriculture has a great Crop Residue Collector for Field Grazing Factsheet that outlines various residue catchers and their costs.

As with any feeding system, feed testing is critical to effectively evaluate quality and match feed stocks to animal requirements. Supplementation may be needed to ensure nutrients are adequate for animals. Nutritional requirements will vary depending on the type of livestock, environmental conditions and snow depth, among other variables.

Now while your farmer neighbor may have excellent crop residues for your cows, producers should be asking themselves if these locations have adequate shelter, water and fencing for any animals grazing there. These considerations are often the main limiting factors in accessing crop residues for grazing.

As farming operations and equipment have increased in size, we often see removal of fences, shelterbelts and even some water sources on large cropped parcels.

You may need to get creative with watering options (see CARA's Winter Watering Inventory), introduce moveable windbreaks and maybe even work out a fencing agreement or try non-permanent options like electric fencing. Check out CARA's videos on winter grazing for tried and true fencing options!

Advantages in grazing crop residues provide for cattle producer are easy to see – reduced feeding costs compared to feeding in confinement, reduced cost of corral cleaning and manure spreading, elimination of machinery costs to put up winter feed, and the list goes on. But why would a crop producer want cattle on their land after they spent years ripping out old fence?

Some of the key benefits to having animals graze crop residues - at least from the crops producers perspective include even manure distribution, elimination of crop residues which can impeded seeding, and potential for additional rent income.

During grazing, manure is spread over the entire field, contributing to fertilizer programs at no extra cost to the crop producer. This can mean a reduction in machinery on the parcel, translating into less fuel and energy costs and more money in the farmers pocket. In addition, any crop residues that may have hindered seeding the following spring are eliminated or spread out. Many crop residue grazing agreements also include some rental costs, giving the crop farmer extra income on land that otherwise would not have been bringing in revenue in the winter.

Some things for the crop producer to think about when considering crop residue grazing? Soil health and structure will need to be considered, as wet clay soils may experience some trampling/ compaction, particularly near water sources/windbreaks where cattle will congregate.

In situations where farmers are not able to harvest due to weather conditions, even more opportunity exists with swath grazing. Some risks do include a potential increase in volunteer crops and/or weeds that may be introduced by the livestock through their manure, on their hides, or if supplementation is fed on the crop residue.

If an agreement is reached, the cattle producer should always have a plan 'b' in place in case conditions change. This is particularly true in the later winter months.

For more information on crop residue grazing, contact your local Ag. Fieldman.

Have you watched yet?

CARA & Special Areas ranchers helped create a youtube series just for you!

Know a Great Farm Family active in your community? The ASB's nominate a family each year for the Calgary Stampede Farm Family Awards. Contact your Ag Fieldman with suggestions!

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

CARA Working for Producers: 2020 Projects

In case you don't already know, Special Areas is the home to one of the most progressive and exciting applied research associations in Alberta!

The Chinook Applied Research Association (CARA) is based out of Oyen and serves all of east-central Alberta with their large variety of trials and extension work. Special Areas Agricultural Service Boards work closely with CARA, including partnering on funding from Alberta Agriculture. Special Areas also directly contributes to CARA as the importance of applied research in our unique part of the prairies is well understood by the Board. CARA is truly a producer-led organization with a board of locals dictating areas of research that would be impactful to local producers and in our regional soils.

To give you an idea of what CARA has been up to this summer, we wanted to showcase a few project highlights for you. If you would like to learn more about their programs, receive their annual reporting and other information, or even get discounts on producer-specific events, you can become a CARA member today.

Regional Variety Testing Program

The Alberta Regional Variety Testing program (RVT) is the most trusted source of various information for producers in Alberta. Farmers need accurate, regional and the most current variety information to stay competitive.

The RVT program is responsible for generating unbiased post-registration information for varieties of wheat, barley, oat, rye triticale, flax, field pea, chickpea, lentil, dry bean and faba bean.

The goal of the RVT is to provide cereal, flax and pulse crop growers, and industry and extension specialists with scientifically valid crop variety performance information under different agro-climatic conditions. Data is published in the *Alberta Seed Guide* and in Alberta Agriculture's Varieties of Cereal and Oilseed Crops for Alberta pamphlet.

AWC Fertility Trial

CARA is evaluating the effect of different nitrogen rates and sources (urea and ammonium sulphate) applied with the seed, at flag leaf and flowering. As well as the yield and protein are monitored. This trial is funded by the Alberta Wheat Commission (AWC).

RVT's at CARA's Smigelski site near Oyen

Evaluation of Various Fertilizer & Mycorrhizae Applications on Barley

The objectives of this trial include evaluation of different levels of nitrogen and phosphorus and the effect of different nitrogen sources (fertilizer rates applied with the seed, at flag leaf and flowering. Yield and protein are being monitored as well. This trial is funded by the Alberta Barley Commission.

Cover Crop Variety Trials

The purpose of this trial is to evaluate annual and alternative cover crops for grazing & soil health purposes.

Cocktail crops have traditionally been used to help hold the soil when transitioning between different types of cash crops, and are often plowed down before planting the next crop to add organic material and fertility to the soil. Farmers with livestock often select cover crops that can be grazed, adding an additional benefit as feed and the advantage of additional nutrients from animal manure.

10 different varieties were seeded (each variety was replicated three times for each of the seeding methods).

Crop Rotation Study

CARA manages one site of this complex rotation study taking place at several locations in Alberta & Saskatchewan. This project is designed to evaluate the pros and cons of various crop rotations, including cereals, oilseeds and pulses. One component includes combinations of barley, canola, wheat, cocktail cover crop mixes and manure applications. This trial is funded by the Canadian Ag Partnership Program & Mustard 21.

Phosphorus Rates on Field Peas

Adequate levels of phosphorus are known to influence yield and maturity in field

Have you checked out FCC's Covid-19 Support Program for agribusinesses?
Click here for more information

CARA Projects cont'd

peas. The impact of monoammonium phosphate (MAP) fertilizer will be evaluated on the yield and quality of Meadow field peas. This trial is funded by the Alberta Pulse Growers.

Regional Silage Trial

CARA contributes to the Silage Production Tables in the Alberta Seed Guide with evaluations of barley, oats, and triticale varieties as well as pea/cereal and spring/ fall cereal mixes for forage yield and quality. Non-traditional annual forage crops (eg. sorghum sudan grass, forage kale, millet, etc.) were added to the program in 2019. This project is partially funded by the Canadian Agriculture Partnership.

Evaluation of Humalite on Crop Production & Soil Health

The impact of various humalite products on canola and oat crops is being monitored at two sites in Special Areas No. 2.

Humalite is a name given to the humate material deposited in Alberta, Canada. It is derived from weathered sub-bituminous coal, formed in a freshwater environment. This has been harvested at the Westmoreland Mine Company (Sheerness) near Hanna. When humalite is harvested, the resulting final product averages 87% humic acid. Humalite can help the longevity, uptake, and efficiency of fertilizers by holding them in the root zone longer while increasing the uptake and retention of nutrients into the plant. This trial is funded by Westmoreland Mine Company.

Soil Amendment Study

This study is designed to evaluate a number of treatments intended to improve biological, physical or chemical parameters of soil health. The products and practices have been recommended by farmers and industry representatives to improve soil constraints.

The physical properties targeted include compaction, water infiltration and wet aggregation. The biological component of the trial is directed to treatments that influence the microbial population, biological diversity and biomass. A combination of physical and biological amendments can improve the balance of nutrients in the soil, which results in the third focus area, chemical properties. All three of these components are interrelated. Baseline knowledge will be useful to solve numerous soil health related issues. This project is funded by the Canadian Agriculture Partnership.

Phacelia, a favorite of pollinators in the borage family, part of the cocktail crop trials.

Soil Health Benchmarking Project

Understanding soil health will give Alberta producers a valuable tool for use in making strategic management decisions on their farms and ranches. The development of a benchmark database is very important in order to better understand soil health limitations and apply appropriate management strategies.

The Soil Health Benchmarking Project is in year 3 of 5 that CARA coordinates with the CARA Soil Health Lab. Funding through Canada Agriculture Partnership allowed us to develop a benchmark and monitor lands in specific areas and get baseline information, in partnership with the other applied research & forage associations of Alberta. Each association has 20 sites that they began sampling & testing in fall 2018.

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This benchmark project is funded by the Canadian Agriculture Partnership.

Biocontrol of Canada Thistle with the Stem Mining Weevil

CARA, along with other applied research groups, introduced the Stem-Mining Weevil as a biological control agent to help control Canada thistle populations at various points in Alberta. The purpose of this project is to decrease and control Canada thistle populations in sensitive areas such as riparian zones, organic farms and native pasture. It is hoped the weevil may be a tool to reduce the use of chemicals to control weeds in sensitive areas. CARA currently has 4 sites being monitored.

EcoBuffer

Eco-Buffers are plantings of perennial species (i.e. trees, shrubs, and/or herbaceous) designed to mimic natural forest habitat that provides specific ecosystem services. The EcoBuffer concept was developed by agroforestry researchers at the Agriculture and Agri-Food Canada Agroforestry Development Centre. The researchers found that if designed well, an Eco-Buffer, like the natural forest it mimics, can provide many ecosystem services at once and continue to sustain itself in the long-term with minimal ongoing maintenance (Schroeder, 2012). These are some advantages that Eco-Buffers have over more well-known shelterbelts (Figure 2), which are usually rows of trees and shrubs of a single species designed specifically for the services associated with reduced wind speed (i.e. sheltering, soil conservation, or snow management).

CARA currently has one site that was recently planted (2020) that is South of Consort.

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Fall Related Considerations for 2021 Lentils

By Neil Whatley

Photo courtesy of Olivia Sederberg, CARA

In preparation for growing lentils in 2021, field selection, residue management and fall weed control should be considered in the fall of 2020.

While land rollers, flex headers, higher podding varieties and improved lodging resistance have allowed producers to grow lentils on less than ideal fields, it continues to be important to select fields with fewer rocks for harvest efficiency. Lentil plants have a very low tolerance to waterlogging and are susceptible to root diseases, so avoid selecting poorly draining soils as much as possible. Lentils do well on clay soil in lower rainfall areas, however, turn out better on sand and loam soils in soil zones with customarily higher precipitation or during growing seasons with higher than average rainfall. If lentil is grown on canola or mustard stubble, be prepared to consider a fungicide application for sclerotinia white mould.

Grow your lentils in fields where much nitrogen was extracted from the soil by the previous crop. Planting lentils in fields high in nitrogen prevents the plants from effectively forming nitrogen fixing nodules, increases disease pressure on a wet year due to an increase in vegetative growth and delays maturity. Although newer lentil varieties are generally more determinate than older varieties, excess nitrogen in the soil continues to heighten the risk of excessive vegetative growth instead of adequate seed set if rainfall continues in July and August.

Lentils are sensitive to some herbicide residues in the soil. Check cropping restrictions of herbicide chemistries applied over the past few years with other crops to realize if it's okay to plant lentils. Some residues do not break down for two or more years, especially under dry growing conditions. If you are unsure about a field, submit soil samples to a lab for a bioassay.

Root rots have been more problematic in pulse crops over the past few years, with the same root rot pathogens generally affecting both pea and lentil. To help prevent root rot from occurring, leave 3 years between field pea and lentil crops or between lentil and lentil crops; 6 years if the aphanomyces pathogen is present.

Ensure a uniform lentil stand next spring by evenly spreading residue or straw from the previous crop. Good straw management not only prevents variable crop emergence, but also provides maximum efficacy of the pre-seed herbicide application. Further to this, lentils seeded into heavy crop residue are more susceptible to spring frost injury. Even spreading of excess straw allows additional bare soil to absorb the sun's heat during the day, releasing it at night, minimizing potential frost injury.

Avoid market class contamination by not growing red and green lentil varieties in rotation on the same field for at least four years. Experienced producers assign specific fields for only red or only green lentil.

Lentil has a thin crop canopy at the onset of the growing season, making it a poor competitor with weeds. Wild oat, as well as volunteer wheat and barley, are important weeds to control because they are difficult to clean from the smaller seeded lentil varieties. Given that some wild oats are resistant to Group 1 (i.e.: Poast Ultra) and Group 2 (i.e.: Odyssey) herbicides, a wider herbicide rotation slows their resistance development.

Therefore, it is important to consider a fall application of a soil-applied granular herbicide like ethalfluralin (Edge), which uses a Group 3 mode of action. Edge suppress wild oat, volunteer barley and volunteer wheat as well as controlling other weeds resistant to other herbicide groups. Edge is the preferable fall applied herbicide in the Brown and Dark Brown soil zones because it also controls kochia, which can be resistant to Group 2 (i.e.: Odyssey) and Group 9 (i.e.: glyphosate) herbicides.

Have questions about the new meat inspection regulation in Alberta?
Check out this FAQ!

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Fall Considerations for 2021 Lentils CONT'D

Edge is only registered in lentil production for fall application. While Edge can be successfully applied without incorporation later in the fall when daylight hours are shorter, reducing chance of photo degradation, registered practice is to incorporate with a heavy harrow operation to ensure herbicide/soil contact while also evenly spreading crop residue. As a soil applied herbicide, Edge controls susceptible weeds in the treated soil layer as weeds geminate in the spring.

Some Group 14 and Group 15 herbicides can be applied in the fall, providing lentil growers with more weed control options. However, they don't have the same residual effect as Edge to provide season-long weed control the following year. Moisture is necessary to activate Group 15 (pyroxasulfone). Focus (Groups 14 and 15) can be applied in the spring or the fall, controlling some grassy and broadleaf weeds. However, caution is advised as Focus can damage lentil growth when growing conditions are not optimal, i.e.: high soil pH (7.5 and above), cool weather, prolonged and excessive moisture, seedling diseases, and poor agronomic practices, i.e.: shallow seeding.

Although research shows that lentil crops generally recover from damage by Focus, nonetheless, setting a lentil crop back always puts it at more risk of flower abortion during July heat, which can reduce overall yield. Valtera/Chateau (Group 14) is only registered for fall application in lentil production. However, over-use of Group 14 herbicides can lead to selection pressure for weed resistance. Therefore, do not apply Heat, also a Group 14 herbicide, as a pre-seed burnoff in the spring when a Group 14 herbicide is applied in the fall.

For more information on lentil production considerations for 2021, contact your local Ag. Fieldman.

DYK? Through the Canadian Agriculture Partnership (CAP) you can get up to $2000 per new employee to assist in training of COVID-19 safety procedures, OHS & work related duties?
Check out the Agriculture Training Support Program

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Thistles: Native or Noxious?

Nodding Thistle (*Carduus nutans*)

This species is PROHIBITED NOXIOUS in Alberta, meaning it must be eradicated when found. Luckily, there have not been any reports of this species in Special Areas as of yet. Nodding thistle can be distinguished from native thistle species due to its ability to grow up to **2.5m tall.** Flower heads have a **'bent' or 'droopy'** appearance and can produce 1200 seeds per plant. **Stems are not spiny** but leaves are dark green with a light green midvein, **deeply lobed** and have spiny edges up to 25cm long. This plant does not have a creeping rhizome root system we're used to seeing with Canada Thistle, but a long, fleshy taproot.

Photos courtesy of Alberta Native Plant Council

Plumeless Thistle (*Carduus acanthoides*)

Another PROHIBITED NOXIOUS species, Plumeless thistle is known to thrive along the Bow River in Alberta. This invasive species is another tall one, reaching up to **2m in height** with a **spine-covered stem** and foliage. Like nodding thistle, it acts as a biennial or winter annual forming a rosette the first year followed by bolting and flowers in the second year. Reproducing only by seeds, a single flower can produce 50-80 seeds with viability up to 10 years. Plumeless thistle has a taproot.

Photos courtesy of Daniel Laubhann, City of Edmonton

Drummond's Thistle (*Cirsium drummondii*)

The roots of young (1st year) native Drummond's thistle were eaten raw or baked over fire by the Flathead tribe. They enjoyed them so much they declared it taboo to pick too many for fear of losing them! This species can be **very short** or grow **up to 1m** tall from its taproot. The **stem is not spiny** with web-like pubescence. Leaves have yellow marginal spines similar to the wavy leaved thistle but webby hairs mainly on the veins. Drummond's thistle **flowers are in terminal clusters of 1-4** (versus wavy leave thistle with only one). Taproot. Biennial. *Photos courtesy of Glen Lee, Saskwildflower.ca*

Wavy Leaved Thistle (*Cirsium undulatum*)

This native plant is typical of dry prairie grasslands such as the Special Areas, and has been noted to be in abundance this year by our agrologists. Standing much smaller than the prohibited noxious *Carduus* species at **0.6-1.2m tall**, you will notice **dense white, wooly hairs** on leaves that give the plant a **silver appearance**. There are **no spines on the stem** of this plant but leaf margins have strong yellow spines. **Flowers are solitary** meaning one flower head per stalk. The root system is a taproot. Biennial/perennial.

Photos courtesy of Diana Boxma, Rangeland Agrologist, Special Areas

DID YOU KNOW? RAMEX mouse & rat bait is available from your Ag Fieldman at your District Offices in Hanna, Consort and Oyen

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Bull Thistle (*Cirsium vulgare*)

This invasive thistle is not listed as noxious in Alberta, however it is in neighboring Saskatchewan. It looks very similar to Drummonds thistle but its main distinguishing feature is that it has **spines everywhere– the stem, leaf margins and the surface of the leaf**. It favors disturbed areas and can form dense thickets. It is a biennial and can grow **up to 2m tall**.

Photos courtesy of Glen Lee, Saskwildflower.ca

Native Plant Collection Guidelines

You may have noticed some interesting flora in front of the Special Areas District office in Hanna. Local office staff worked with the Agricultural Service Board to create a native plant garden which highlighted species native to this region.

Located in front of the Hanna District Office building, this garden is home to plants native to the Special Areas. This display is meant to be both ornamental and educational, showcasing what a large diversity of plants can grow in our area.

Want to start your own native garden?

Incorporating native plants into your landscape is very beneficial. You not only learn and appreciate the diversity of native plants, but you can help conserve natural habitats-plus there is a greater chance of plant survival! However, there are very important guidelines you should follow if planning to incorporate native plants.

Purchasing native plant seeds can be done through several companies. Be sure to double check that all of the varieties are suited to your region, and don't contain any unwanted (or noxious!) species. The Alberta Native Plant Council has a list of reputable native plant seed vendors to choose from. Special Areas Ag Fieldmen do not recommend purchasing wildflower mixes. These mixes are often wrought with invasive or noxious species that quickly spread. In addition, most species within the mix flower at different times of year, never giving gardeners the desired effect anyways.

Collecting your own native plant seeds

At this time of year you may be inclined to collect your own native plant seeds. This needs to be done with extreme care.

It may be tempting to just dig up desirable plants, but please don't! Digging up plants can drastically reduce populations, disrupt the habitat for other plants and leave the soil prone to weed invasion. When collecting plants from the wild only seeds should be taken.

The Native plant council recommends you do the following BEFORE any collection:

1. Obtain permission from all landowners (public or private)
2. Learn your local flora
3. Be sure which species NOT to collect, including
   - Rare species
   - Noxious species
   - Species that are difficult to propagate
4. Learn appropriate propagation methods
5. Observe plants in their natural habitat to mimic accurately their growing needs (soil, light, moisture)

When collecting:

1. Do not disrupt native plant communities
2. Do NOT dig up plants
3. Learn how to collect & store seeds properly, so that they are more likely to grow into viable plants
4. Collect no more seeds than you can propagate. You should never collect more than 10% of a plants seeds (leave 90% for natural dispersion). Never collect all the seeds from a single plant or small group of plants of the same species.
5. Ideally, seeds should be collected from large and healthy populations
6. Do no damage to surrounding flora and fauna.

Have you checked out the Saskatchewan Prairie Conservation Action Plan (PCAP) Native Prairie Speaker Webinar Series? Check out their Youtube Channel to see them all! July's Presentation: Identifying the Big Weeds

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Calling all Ag Producers

CACTUS CORRIDOR

PALLISER ECONOMIC PARTNERSHIP

Would you like to hear about potential export opportunities & explore expansion into new markets?

Cactus Corridor Economic Development Corporation and Palliser Economic Partnership are hosting a Market Entry and Investment Attraction presentation in October to start the discussion with local producers on what export opportunities are available.

We have been building connections with overseas networks, working to identify potential leads for agricultural products and want to engage local producers that may be interested in developing and expanding into these markets.

Join us at one of the following sessions to learn more about the process:

October 14th and 21st
3pm & 7pm Sessions

Upstairs boardroom
Hanna Learning Centre

You must register in advance by calling Mark Nikota at 403-854-0589

YOUNGSTOWN REGIONAL LANDFILL
now accepts
grain bags & twine!

For more specifics visit CleanFarms.ca or call at (403) 857-9300

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

Management of Cereal Grain in Storage

by Alberta Agriculture

The main objective of proper grain storage is to maintain the quality and characteristics that the grain possessed immediately after harvesting and drying.

The quality of grain cannot be improved during storage. Grain improperly harvested and dried will remain of low quality no matter how well it is stored.

In cereal grains loss in quality and quantity during storage is caused by fungi, insects, rodents and mites. Respiration may, in certain cases, contribute to a loss of dry matter during grain storage. However, the losses due to respiration are minor compared to those caused by living organisms.

Fungi (molds) are the major cause of spoilage in grain. Losses caused by fungi in cereal grains are related to (1) a decrease in germination, (2) discoloration of the seed, (3) heating and mustiness, (4) biochemical changes, (5) possible production of toxins, and (6) loss in dry matter. All these changes may occur without the mold becoming visible to the naked eye.

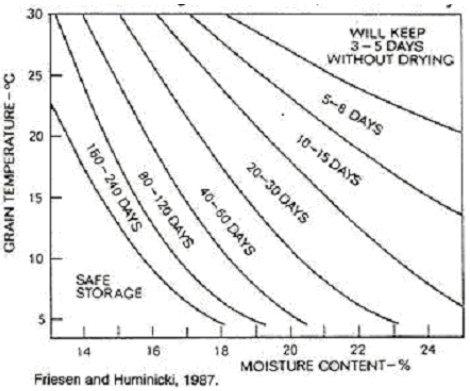
There are two groups of mold that affect grain quality: field molds and storage molds.

Field molds invade kernels while the grain is still in the field. The field molds cause the discoloration of cereal grains often observed in plants exposed to very moist weather before harvest. In addition to affecting grain appearance, field mold may cause a decrease in the germination of the grain seeds.

Field mold damage is completed by the time the grain is harvested, and there is, therefore, relatively little that a producer can do about it. Once the grain is dried, these molds die or become inactive.

Storage molds are prevalent in storage facilities when the grain moisture content is too low for field molds (less than about 20%). The moisture and temperature requirements of these molds determine the safe storage period.

By controlling moisture content and temperature, mold growth is restricted and grain can be dried without significant spoilage. Grain temperature and moisture content determine the allowable storage time (AST) or how long grain can be kept before it spoils. Figure 1 below gives an estimate of how much time you have to dry grain before it spoils, and how long you can maintain grain quality in storage.



Friesen and Huminicki, 1987.

Notice that as grain moisture content increases for a given temperature, the allowable storage time for drying and storing decreases. Also, as temperature increases, allowable storage time decreases. Mechanical damage to grain and the amount of foreign material also affects allowable storage time.

Clean grain and whole seeds are more resistant to mold.

For long-term storage grain should be dried as soon as possible after it comes from the field. A delay in drying decreases the allowable storage time as shown in the following examples.

Maximum Moisture Content for Straight Grade Seed (%)	
Barley (feed)	14.8
Barley (malt)	13.5
Canola	10
Chickpeas	14
Corn	15.5
Domestic Mustard Seed	10
Flax	10
Lentils	14
Oats	14
Peas	16
Rye	14
Triticale	14
Wheat	14.5

SPECIAL AREAS BOARD

Notes from the Field — Fall 2020

This September we said farewell to Agricultural Service Board summer staff who worked tirelessly on Special Areas region projects and producer programs over the summer. We asked them:

What is one thing you wish Special Areas residents knew about ASBs?

More about weed ID so that they can help us control them – *Farrah, SA4*

I wish landowners would more closely follow the posted rules & guidelines when depositing their recyclable ag plastic at the container sites – *Mitch, SA4*

The ASB is here to help in any way we can! However, we need landowners to take ultimate ownership if they want to see successful outcomes – whether it be reduced weed infestations, increased vegetation or pest control. - *Janay, SA2*

Our summer staff is hardworking, ambitious and we really enjoy our summer managing vegetation. We are about our jobs and respect the land we apply our vegetative management skills to! - *Kallie, SA3*

Special Area No 4 weed inspector Mitch Gramlich helped rescue a hawk stuck in a barbed wire fence this

UPCOMING EVENTS

Sept 3– Oct 1	Canada Mycotoxin Webinar Series, presented by AllTech
October 15	Virtual Export Session: How to enter the foodservice sector
December 8-10	Agricultural Excellence Conference , presented by Farm Management Canada
January 5 & 7	Banff Pork Seminar

HAVE YOUR SAY!

Take this 10 Question survey to let CARA & the ASB's know what extension events you want this fall/ winter!

www.surveymonkey.com/r/JQXQY7F

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We offer support for programs including:

- Plant identification & noxious weed control
- Grazing management & strategies
- Pest management & controls
- Canadian Ag Partnership (CAP) Funding
- Environmental Farm Plans
- Shelterbelt programs & planning
- Animal predation concerns
- Equipment rentals including RFID tag readers & pest traps
- Concerns related to *Soil Conservation Act, Weed Control Act, Agricultural Pest Act, Animal Health Act,* and other legislation.

For more information, go to www.specialareas.ab.ca or visit us on our Facebook page and Twitter @SpecialAreas.