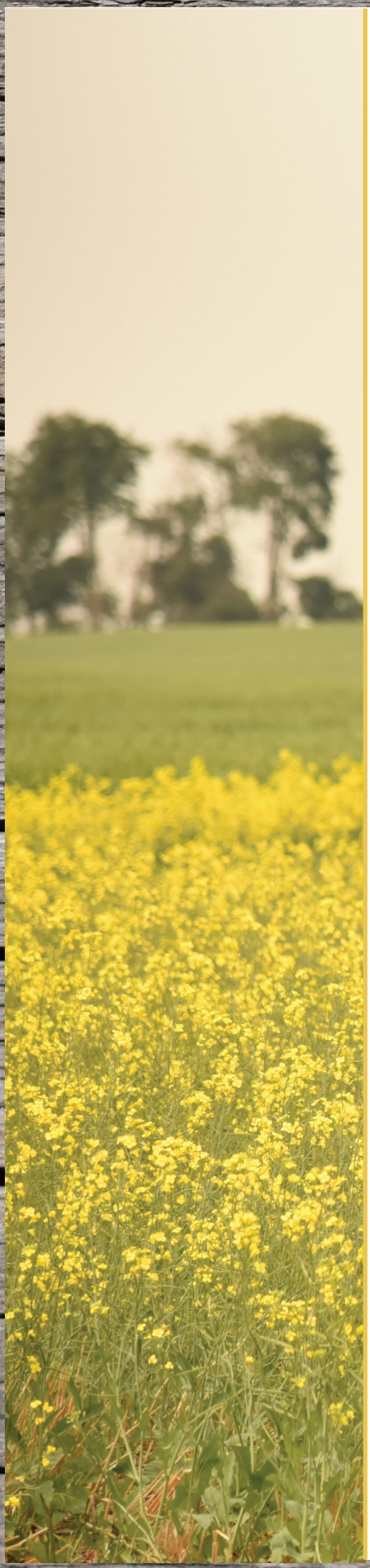

over the Fenceline

Battle River Research Group

Summer 2017

Thank you to everyone who attended our Field Days! We will see you next year!

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Alberta Government

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Identifying & Managing Disease in Lentils

"The main cause of lentil foliar diseases is environmental conditions," says Neil Whatley, crop specialist, Alberta Ag-Info Centre. "Unless the growing season is uncharacteristically wet, foliar disease isn't a serious concern for lentil producers; however, a sound crop rotation is critical. Extra diligence when growing lentil in the traditionally wetter Black and Gray soil zones is also important."

Disease resistance for specific diseases continues to be bred into the newer lentil varieties, says Whatley. "Almost all lentil varieties now have good resistance to ascochyta blight, which historically is the most problematic lentil disease on the Prairies. Thus, seeing ascochyta disease symptoms on most varieties is unlikely. If you are unsure about the ascochyta blight resistance of a variety being grown, check the provincial seed guide."

Newer lentil varieties have fair to good resistance to anthracnose; however, even those with the 'good' designation only have resistance to one of the two genetic races that control anthracnose. Anthracnose symptoms will emerge as air temperatures warm up if the humidity in the crop canopy is heightened by additional precipitation in June and July. Visible symptoms begin in the lower plant canopy and affect the stem, branches and leaflets before spreading upward to eventually affect pods. A typical anthracnose symptom on the stem and branches is a sunken cream to tan coloured lesion surrounded by a dark brown border, leaving a series of cankers on the lower stem. Infected lower leaflets have yellow to brown coloured lesions on their surface and eventually drop to the soil. If precipitation persists, distinct yellow patches of infected plants form and expand amidst an otherwise green field.

"If there's considerable precipitation in a maturing lentil crop that encourages excessive vegetative growth and lodging, sclerotinia white mould may develop later," says Whatley. "Lentil crops are especially vulnerable to sclerotinia when grown in rotation with other susceptible crops like canola, mustard, sunflower and field pea. This is one reason why lentil does better in rotation with a cereal crop. Characteristic sclerotinia symptoms

are white bleaching of plant tissues and cottony white mould growth on diseased leaves and stems.

Since these foliar fungal diseases flourish under environmental conditions of higher humidity, they can be worse when using higher seeding rates and when lentil is grown under irrigation or in higher rainfall regions."

Although a fungicide application is not always warranted, several fungicides are registered to control foliar lentil diseases. "Anthracnose is the most yield limiting disease at this time, so scouting for anthracnose should begin at the 8 to 10 node stage of the lentil plant, just prior to the canopy closure and flowering period. Begin by observing the higher risk areas of the field like low areas where humidity accumulates, but also check mid-slopes. Pull the canopy back and search for evidence of the small brown anthracnose spots developing on the lower part of the stem. Under humid conditions, spots rapidly expand into lesions. Since anthracnose disease development progresses from the bottom to the top of the plant, the most critical period to stop or slow anthracnose disease development with a fungicide application is at the 9 to 10 node stage or early flowering period, prior to canopy closure. If conditions favouring the disease persist, an additional fungicide application to protect new plant growth may be necessary 10 days later. However, canopy penetration may be limited and ensure a different fungicide mode of action is used the second time to prevent pathogen resistance."

If wet environmental conditions persist after canopy closure, the lentil crop may be susceptible to sclerotinia infection, which can be a challenge to control with fungicides. "A fungicide control measure must be made prior to seeing sclerotinia symptoms," adds Whatley. "So, if sclerotinia is anticipated due to lentil being grown on canola stubble, for example, an early infection that occurs shortly after canopy closure may be controlled with a fungicide application; however, a late season infection, which usually occurs at the base of a dense canopy, may be uncontrollable."

Neil Whatley
Crop Specialist
Ag Info Center 310-FARM

Risks Using Overwintered Crops as Livestock Feed

When feeding animals mature cereal crop greenfeed, many potential problems can occur.

"Grain overload, acidosis and bloat may occur in cattle and sheep because the weight ratio of grain to straw in this material is approximately 1:1," says Barry Yaremcio, beef and forage specialist, Alberta Agriculture and Forestry. "The animals prefer to eat the grain rather than the straw."

Macro mineral imbalances of calcium, phosphorus, magnesium and potassium could cause downer cows or milk fever.

"Sheep require very high quality forages in late pregnancy and after lambing," says Yaremcio. "Lower quality forages such as overwintered cereal greenfeed or spring-threshed grain generally don't have the quality required to meet requirements. It's not recommended to use these types of feed."

Monogastric animals are very sensitive to mycotoxins, especially DON and Zearalenone. Levels of vomitoxin (DON) at 1 ppb will cause feed refusal in pigs.

"Spring-threshed grains can contain waterfowl manure" says Yaremcio. "With the significant risk of Avian Influenza being spread, spring-threshed grain should not be used in any poultry diet. As well, ergot-contaminated grain is a concern for all types of livestock. Any feed containing ergot must be tested for mycotoxin levels before being included in rations."

Barry Yaremcio
Ag-Info Center 310-FARM

Why Crop Scout?

Field scouting throughout the growing season can lead to more successful crop production.

"There are numerous factors that can impact a developing crop," says Mark Cutts, crop specialist, Alberta Ag-Info Centre. "Scouting can help producers understand what is happening in their fields and aid them in making proper management decisions. At this time of the year, for example, producers can evaluate various agronomic components including plant stand establishment, weed control, diseases and insect pests."

Evaluating the plant population for a given crop lets producers see if the number of plants (per square foot or square metre) matched the target goal that was established at the time of seeding. "For producers that used a seeding rate calculator, their target plant population would be known. If, after sampling multiple locations in the field, the plant stand is lower than expected, producers can start to investigate the reasons for the lower stand density. Mechanical (related to the seeding operation) or environmental (frost, excess water, insects or diseases) impacts are all potential causes for limiting plant stands."

Scouting after a herbicide application is vital to weed control, says Cutts. "Scouting after an herbicide application will show producers if the weeds were adequately controlled. In the majority of cases, producers will find that the chemicals have worked. However, in certain situations, field scouting may show the weeds weren't properly controlled and producers can start to evaluate what might have caused the problem."

A difference in the pattern of weed escapes can indicate poor performance of an herbicide due to environmental conditions or that herbicide resistant weeds may be present. "If the weeds that escaped the herbicide application are found throughout the entire field, it can point to limited herbicide effectiveness due to environmental conditions such as low temperatures. However, if the weeds are found in isolated patches, this may be a herbicide resistance issue. If unsure of the cause, contact an agronomist or chemical company representative to discuss the possible causes of the weed escapes."

Scouting of crops at this time also allows disease development to be assessed. "For example, barley leaf diseases such as scald and net blotch move from the older leaves to the newer leaves as the growing season progresses. If leaf diseases are present and environmental conditions remain favourable for disease development, a fungicide application may be necessary once the crop has reached the flag leaf stage.

"Insects can also be evaluated at this time by looking for increases in insect pests that were present earlier in the growing season (e.g. grasshoppers). Producers can also scout for recently emerged insects. For example, as head emergence occurs on wheat crops they should be monitored regularly for wheat midge."

Mark Cutts
Ag Info Center **310-FARM**

Prepare for the summer grazing season: Consider creep feeding calves

Hot, dry conditions across most of Alberta have slowed forage growth in pastures and hay fields. If it stays dry; the amount of growth will be limited and it is possible that pastures will run out much earlier than normal. In general 70% of total forage growth occurs before the 15 of July. If significant amounts of rain do not come soon, total growth could be compromised.

One strategy to stretch limited forage supplies is to creep feed calves throughout the summer. Calves that are 45 to 60 days old can digest grains and use the nutrients to improve growth rates. An Ontario Ministry of Agriculture factsheet indicates that on poor pastures, for every 5 pounds of creep feed consumed; calf growth rates improve by 1 pound. A second advantage of creep feeding calves is that forage the amount of grass consumed by the calf is reduced which stretches the amount of grass available for the cow.

Calves under 700 pounds eat grain slowly and chew the material sufficiently that processing is not required (Ohio State University Extension). Average daily gain and feed conversion efficiency is equal to that of processed grain.

Using whole oats or barley as the sole ingredient in a creep ration for small calves does not work. A creep ration requires 14 to 16 percent protein to “frame out” the skeleton properly and to develop muscle. Intakes generally are in the 2 to 3 pounds a day range for 350 pound calves and can get as high as 8 pounds a day when the calves are 600 to 700 pounds. A recipe for a home grown creep feed is to include split or cracked peas at 35% of the mix with oats or barley (or a combination of the two grains). If wheat is to be part of the creep feed, inclusion rate should not exceed 20 to 25% of the mix to minimize the chance of acidosis. If no additional protein is added to the creep feed, it is possible to have short fat calves that could be discounted at the auction market come fall.

A commercially prepared creep ration is another option. These products should contain a minimum of 75% TDN and again the 14 to 16% protein content is required. Screening pellets generally have lower energy content than grain and do not deliver the necessary energy needed to get the additional gains on the calves.

Creep feeding the calves for the majority of the grazing season can result in 25 to 100 pounds of additional gain compared to animals that are not supplemented. If 700 to 800 pound calf prices stay at the current price of $2.85 a pound for steers, this could increase the value of the calf by $70 to $285 per calf. A good return on investment.

Barry Yaremcio
Ag-Info Center 310-FARM

Shelterbelt Planning & Design

Tree and shelterbelt planting is a long-term investment that requires careful planning and design. “You have to ask yourself what you want to accomplish by planting trees or shelterbelts on your property,” says Toso Bozic, woodlot extension specialist, Alberta Agriculture and Forestry. “And you should involve all family members in this process to bring in their ideas, thoughts, and values.”

Bozic says trees should always be managed with future generations, as well as immediate needs, in mind. “The goals can be many, ranging from wind protection, reducing energy costs, increasing property values, providing visual barriers and privacy, increasing biodiversity of wildlife species, retaining water, and many others goals. All of these can be achieved if you plan and design properly.”

The first step, says Bozic, is to visit existing shelterbelts and tree planting in the local area. “Visit already-established shelterbelt and windbreaks, and talk to landowners about what did or not work on their property. That’ll give you valuable information about potential soil and water problems, maintenance requirements, cost, potential issues, tree growth, reasons to choose different species, and various spacing and weed control issues.”

For proper design and planning, the most important tools are a pencil and eraser. “I can’t stress enough that you can change anything on paper, but once you put trees in the ground, changes are costly. You are in a unique position to create something that can be in harmony with nature, but at same time very different.”

Proper planning and design includes several steps:

Find an area to plant that combines effective protection from wind and snow with the functional design possibilities to increase aesthetic value.

Use an aerial photograph from your local county office or Google Earth to draw a map for the design.

Once the mapping is complete, collect as much information as possible on soil type, drainage, slope, prevailing winds, sunlight exposure, property lines, power and other utility lines, buildings, roads, etc.

When the site assessment is complete, choose the tree and shrub species. “The key thing is to diversity,” says Bozic. “Many people just choose very few species such as spruce, hybrid poplar, and lilac. There is nothing wrong with any of these species, but there is a higher long-term risk for your trees if you only plant a few species. Plant a variety of trees and shrubs on your property. Each species provides unique beauty and benefits, as well as challenges. Diversity is key for the long-term viability of your shelterbelts.”

In natural forests there are no “recommended” spacing as trees, through competition based on site abilities, provide their own best spacing. “While you have to watch for the functionality and effectiveness of your shelterbelt, whether you plant every 8, 10, or 12’ between trees is really up to you. Also, you do not need to plant in straight rows. Be creative!”

Once design, site assessment, trees and shrub choice, and spacing requirements are complete, it’s time for the hard work of site preparation and tree planting, followed by ongoing maintenance.

“Planning and design is probably the most crucial steps in the long journey of establishing trees and shrubs on your property,” adds Bozic. “It takes detail and thought, but is also fun where the creativity and wisdom of your family creates something unique and joyful.”

Toso Bozic
780-415-2681

Helping Make Energy Efficiency Affordable

The Government of Alberta has partnered with Lakeland College in Vermilion to provide a regional Energy Outreach Officer whose role is to promote the Growing Forward 2 (GF2) a federal, provincial, territorial initiative, On-Farm Energy Management Program (OFEMP) and the GF2 On-Farm Solar Photovoltaic (OFSPV) Program in Eastern Alberta.

These programs offer farmers and ranchers the opportunity to become energy efficient by sharing the cost to purchase energy efficient or renewable technologies. These initiatives are intended to make energy efficient technology as affordable as current technology, making the environmentally friendly choice also the economically sensible choice.

Our Energy Outreach Officer welcomes opportunities to attend community events, talk about energy efficient technologies, as well as answer questions about the OFEMP and OFSPV Program and explain the benefits of these programs. We are more than happy to meet one-on-one with farmers and ranchers to help them find potential energy efficiency solutions for their operation.

Contact your regional Energy Outreach Officer Lyle Lawrence, by calling (780)853-8482, by email, lyle.lawrence@lakelandcollege.ca, or feel free to stop by the Renewable Energy Learning Center located at Lakeland College's Vermilion campus

Photo of Center for Sustainable Conservation and Innovation-Lakeland College

Baling Hay

While hay quality varies across the province, how to store that hay for the best results doesn't.

"Moisture content in the forage is key to having a bale store properly and not mould or deteriorate in quality," says Barry Yaremcio, beef and forage specialist, Alberta Agriculture and Forestry. "The large round bales should have 15-16 per cent moisture while the large squares should be down to 12-13 percent."

Yaremcio says that while the hay may look and smell fine, it needs to be physically evaluated to see if it is cured.

"You should take a sheath of hay out of the swath and try to break it, just like breaking dry spaghetti into a pot. If it breaks after bending the stalks, and you can hear it snap and crackle, those plants are now cured."

Yaremcio says that, while moisture probes work reasonably well with cured hay, they may give a false reading with uncured hay. "The moisture inside the stem is a lot higher than what is on the outside and you can get a false low reading."

Once the bales have been made, they can be stacked about seven to ten days later. "Bales will go through a sweat period about three to four days after being made. That's just an equalization of the moisture within the bale. But you'll want to leave the bales out in the open and let the wind blow on them before stacking."

Barry Yaremcio
Ag-Info Center 310-FARM

Up Coming Events

Meat Goat Seminar

Tuesday November 21, 2017
Stettler Agri-Plex Pavillion
9:00am - 3:00pm

Join the Battle River Research Group to learn the in's and outs of raising Meat Goats! Whether you are thinking of getting goats or already have them we guarantee you will learn something new!

Topics include: Nutrition, Biosecurity, Tips on Kidding and "How Meat Goats payed my Mortgage!"

Come listen to a variety of Small Ruminant Veterinarians and Experienced Producers in the Business!

For more Info or to Register:
www.battleriverresearch.com/upcomingevents
780-582-7308
events@battleriverresearch.com
Cost: $40/Includes Lunch

Battle River Research Group

Western Canada Conference on Soil Health

Western Canadian Grazing Conference

Western Canada Conference on Soil Health and Grazing

Profit Above, Wealth Below

December 5-7, 2017

Radisson Hotel Edmonton South
4440 Gateway Boulevard

Join us for TWO great conferences in ONE!

Featuring: Gabe Brown, Ray Archuleta, Jim Gerrish, Odette Menard, Efren Cazares, Dr. J.C Cahill, Dr. Allen Williams, Tim Hardman, Dr. Yamily Zavala, Richard Teague, Dr. Alan Iwaasa, David Brandt *and more!*

For More Info and to Register Visit our Website: www.absoilgrazing.com

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Paintearth Riparian Health Day

Come Join the County of Paintearth, Cows & Fish, Alberta Agriculture and Forestry, Battle River Watershed Alliance and the Battle River Research Group for a day of learning about Riparian Health!

Tuesday August 29, 2017
9:30am - 2:00 pm

Leave from Paintearth County Building at 9:45
(#1 Crowfoot Crossing TWP Rd 374 & Hwy 12)
or Meet us at SE-16-37-11 at 10 am

The event is FREE and includes lunch, but please register!

Hear topics from Karin Lindquist (AAF Beef and Forage Specialist), Kelsey Spicer-Rawe (Cows & Fish Riparian Specialist), Sarah Skinner (Battle River Watershed Alliance Planning Coordinator) and Trevor Kerr (County of Paintearth Asst. Ag Fieldman)

To Register:
www.battleriverresearch.com/upcoming-events
events@battleriverresearch.com
780-582-7308

Cows and Fish

Battle River Watershed Alliance

Battle River Research Group

County of Paintearth No 18

Alberta Government