

The Blade

"Creating an Awareness of Forages"



OCTOBER | 2016

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IN THIS ISSUE:

- Pg 2 Carbon Sequestration Event Poster
- Pg 4 Consider All Costs of Using or Renting Grain Storage
- Pg 6 The Cow Herd Event Poster
- Pg 7 Purchasing Feed
- Pg 8 Clean Eggs, Healthy Chicks
- Pg 10 Watershed Friendly Feeding Sites Event Poster
- Pg 11 What's the Plan for Next Year?
- Pg 12 Frost and Nitrates in Forages
- Pg 14 West Country Cattle Handling Systems Event Poster
- Pg 14 West Country Ag Tour Highlights
- Pg 15 Get the Jump on Weeds for Next Year

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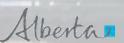


Photo Credit: Ginette Boucher

Mission Statement

To promote environmentally and economically sustainable forage and agricultural practices.

Vision Statement

The community is engaged in regenerative agricultural production methods.





Message from the Chair

By Ken Ziegler

Well folks, welcome again to this new version of The Blade. We trust you'll find the contents of this newsletter interesting and valuable. Both Ginette and Devin have been working hard to provide you with a



good reading experience. For those of you that get this newsletter electronically, feel free to pass it on to others that would benefit from it.

I have three quick thoughts for you to consider; the first relates to the need for feed testing this year. The need to chemically determine the nutrient content of your hay is a consistent message each fall but is especially pertinent this year. The variation in cutting time and the variation in the timing and the incredible amounts of rain this year - each of these aspects affect feed quality and can cause you grief if nutrients are inadequate throughout the winter. By feed testing and doing subsequent ration balancing, you can prevent both a nutritional wreck

or over feeding. Nutrient optimization is the key and it all starts with a feed test, particularly in these off type growing and harvesting seasons.

The second message I'd like to pass on to you is to remind you that we're now on Facebook. We've chosen to build a GWFA closed group where folks must request to join in to engage in discussion. Feel free to join in the dialogue. All you need is a current membership to GWFA and to contact Ginette or Devin and they'll sign you in. Once you're in, you're welcome to start a discussion or add your two bits into an existing discussion. Totally fun!

And finally, you'll notice numerous announcements in this newsletter about events planned between now and Christmas. Consider them carefully. All of them are interesting and useful in broadening your understanding. I invite you to sign up and become a part of the various workshops and tours.

Ken

Carbon Sequestration: Land Management and its Value

HOW DO WE AS FARMERS CONTRIBUTE & BENEFIT?

December 6, 2016
Ponoka Legion
10:30am - 3:00pm

Featuring:

Paul Jungnitseh * Dr. Vern Baron
Dr. Scott Chang

Jeff Renton * ALUS Canada



COST:

FREE for GWFA Members \$20.00 for Non-Members

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Manager's Notes

By Ginette Boucher

Greetings,

It has been a very unstable year with a dry winter, drought in the spring and an extremely wet summer. Many of you are just getting your first cut of hay now. This is indeed an exceptional



year. The challenges appear to be coming in leaps and bounds. Our weather patterns are continuously changing and mother nature keeps surprising us.

For those of you who are planning to take forage samples and send them into the lab for analysis, GWFA has purchased a hay and silage sampler that is available to paid members for free. Given the current year the quality of hay will be as unpredictable as the weather, so it is very important to sample your feed to assist with your ration balancing for this coming winter. Please contact the office to sign out these items. We can also assist with forms and provide the information of labs that we recommend.

With the uncertainty in the economy and our new provincial government, Grey Wooded Forage Association is focusing on the development of our next 5-year strategic plan. We feel that a strong strategic plan better diversifies our extension delivery, enhances our service level, optimizes our credibility, and positions us to build strong alliances with industry, all for long term sustainability.

ARECA has scheduled their strategic plan review for November 8-9th, and we want to make sure that GWFA's strategic plan aligns with ARECA's. Our ARECA membership is extremely valuable to us providing provincial unity, valuable projects, training, as well as provincial and industrial advocacy along with a host of other benefits.

GWFA members are invited and encouraged to provide input for the future of your forage association. This is a very important time to speak with staff and Board members about information or services that are of interest to you or if you have project ideas that you feel would add value to the association. By year end we plan to have our strategic plan updated and ready for delivery in 2017.

Best regards, Ginette



Gallagher Passion for Pasture

On September 26th Directors from Grey Wooded Forage Association met with a group from Gallagher Power Fencing to discuss the past present and future of pasture management in North America and in particular Alberta.

Gallagher is looking at ways where they can assist in the promotion and support of improved pastures and grazing practices. The discussion covered topics varying from who is using strategies for improved pasture performance now to why some producers do not. Gallagher is working on a plan to develop a longer term strategy that would focus on the financial and environmental benefits of managed grazing.

Sincerely, Garth



SEPTEMBER | 2016 PAGE 3

Consider All Costs of Using or Renting Grain Storage

By Dean Dyck, P. Ag, Farm Business Management Specialist

During harvest, many producers are able to sell their grain directly off the combine for the right price. However, due to contract requirements, delivery or shipping opportunities, that may not be possible. Alternatively, some producers have excess bin space and see an opportunity to rent this space out to their neighbours. In both cases, knowing all the costs of grain storage is key in your grain marketing plan or asking the right price to rent out your bin.

The most significant ownership costs of grain storage are depreciation, return on investment, repairs, taxes, and insurance (often called the DIRTI 5). Depreciation is the loss in value of the asset over its lifetime due to wear and tear and obsolescence. Typically, flat or hopper bottom bins depreciate at 4 percent per year over a 25 year lifetime. Return on investment is a calculation of the interest on money tied up in the storage facility. The rate of return on investment can be the rate at which money is borrowed. This is multiplied by one half of the original purchase price because over the life of the bin, its average value is only half of its purchase price. Repairs are needed to maintain the storage in reasonable condition. As a guideline, use 1 percent of the purchase price for grain bins. Taxes and insurance can be estimated at 1 percent of the original purchase price.

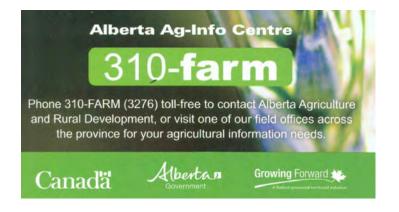
Using these calculations, producers can calculate the cost of owning their bins or determine the minimum amount to rent them out. Flat bottom bins, with a lower purchase cost per bushel, generally rent between 1 and 1.5 cents per bushel per month, or 12 to 18 cents per bushel per year. More expensive hopper bottom bins generally rent between 1.5 and 2 cents per bushel per month, or 18 to 25 cents per bushel per year. These suggested rates are guidelines only; producers should calculate their own rate based on cost of their own bins.

A study published by Alberta Agriculture and Forestry's Economic and Competitiveness Division also calculated the cost of grain rings and grain bags.

Grain rings are the most economical solution for grain storage at 10 cents per bushel per year but are temporary solutions with a high risk of pest, wildlife and moisture damage and loss. Grain bagging systems have a high investment for the bagger and extractor, high spoilage and depreciation costs and low salvage values. The study estimated the cost at 53 cents per bushel per year. The study is titled "Grain Storage Considerations" and is available on the Agriculture and Forestry website.

If you are holding grain in the bin for later sale, interest is a significant cost. The actual interest cost depends on the producer's cash flow. To calculate the monthly interest cost, a general guideline is to use your operating loan interest rate times the value of grain per tonne divided by 12. For example, if the cash price of #1 CWRS 13.5 is \$216 per tonne and with a 5 percent operating loan, the interest cost of holding that grain equates to \$0.90 per tonne per month. This cost can become significant if grain is held for a long period of time and can decrease your profit.

Grain storage costs, the potential for price erosion, quality risks and balancing cash flow needs are all important components of a grain marketing strategy. Taking time to review your costs is a useful first step. If you have any questions regarding farm management, give us a call at the Ag Info Centre at 310-FARM (3276).





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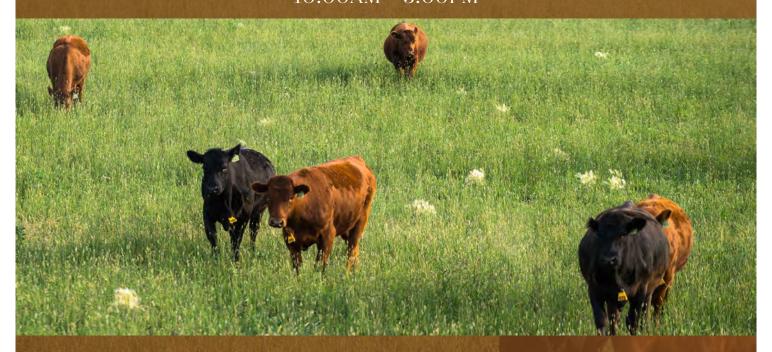
Calving supplies are arriving early March!





THE COW HERD: SETTING IT UP FOR SUCCESS

NOVEMBER 17, 2016 PONOKA LEGION 10:00AM - 3:00PM



FEATURING:

DR. TREVOR HOOK

Central Vet Services Ponoka Whole herd vaccination programs and neonatal health management.

KRISTEN RITSON-BENNETT

Blue Rock Animal Nutrition
Winter feeding programs and pre-breeding
nutritional considerations.

DESERAE HOOK Saskatoon Colostrum Effective colostrum management.

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MEMBER COST - \$30.00 NON-MEMBER COST - \$40.00



Purchasing Feed

By Devin Knopp, P.Ag.

The decision to purchase feed this year is not an easy one. There is great variability in price and quality of hay, and while some sellers are motivated, others can wait. The big question is how do you secure quality hay at a fair price?



Many people in search of feed go to local auction markets and look through listings on Kijiji or the newspaper. These methods of searching help give a prospective buyer an idea of the current market. That said it can also be confusing to come up with a fair purchase price. As with any free market system you will see that there can be a vast variability between asking prices. This may be because some sellers are more eager to move their excess supply while others are willing to wait and store feed until the demand and supply begin to drive prices into their market acceptance. So once again the seller is left in the dark without much influence on price. However, there is one piece of leverage that a prospective purchaser does hold and it isn't one that many exploit. That leverage point is forcing a seller to prove the quality of their hay through feed tests.

In many ads sellers put in words like 'green hay' or 'no rain'. While that does have some bearing on the quality it isn't everything. 'Green hay' that's first cut in early July vs. 'green hay' cut in late August or early September has very different quality, since most tame perennial forages lose quality as they mature on the stem.

Also, no rain doesn't really mean good quality hay either. Yes, excessive rain will decrease quality of feed as protein and palatability will be lost. But if hay only gets one or two showers, and is given adequate time to dry and cure it will retain most of its quality. Especially this year, where there were few continuously dry days together, there was little time for cut hay to not have any rain showers on it. So I caution purchasers when looking at the 'no

rain' hay, because hay can test dry when its baled but be uncured. This uncured hay will still spoil, so you may end up paying a higher price for green looking hay that's poor quality.

So, as a buyer your best leverage is to get a seller to prove the quality of their hay before you buy it. There is a shortage of quality hay in the market, so you should be sure of its quality before purchase. The best way to prove that quality is through forage testing. If a seller is asking a high price, and is able to prove the quality of the feed with a feed test, it does give the purchaser some value and comfort in buying that hay. Also having a feed test allows the purchaser to make accurate decisions for the entire year. You may be willing to purchase lower quality hay to feed your cattle in the fall and early winter when they are at their lowest requirement for nutrients and purchase some top quality hay for their times of high nutrient demand post calving. This also allows you to make decisions about looking at other sources of feed such as cereal grains and peas to substitute poor quality hay.

As a buyer, you do have options to help you make the best business decisions when purchasing hay. Just because its green or had no rain, doesn't mean it's the best thing for your herd. However, be prepared to look at other options for feed this year. This harvest season hasn't been the best either, so there may be some cheaper feed grains available to offset challenges in the nutritional profile of your hay.



September | 2016 Page 7

Clean Eggs, Healthy Chicks

From www.growingforward.alberta.ca

A project funded by Growing Forward 2 found wide variation in how hatching egg producers clean eggs, and developed best practices to minimize bacteria and the need for antibiotics. Between the hens, the roosters, and the dirt, the environment in a hatching barn isn't pristine. Almost as soon as eggs are laid, they'll pick up some degree of dirt. If an egg is left that way, bacteria can grow on the shell and could affect the chick once it emerges. That's why hatching egg producers normally clean or wash their eggs. The cleaner the egg, the less likely a bacterial infection will occur that may require the use of antibiotics.

"Farmers are using many different methods to clean their eggs," says Brenda Schneider, poultry research technologist with Alberta Agriculture and





Forestry (AF). "Some dust them off, others use an egg-washing machine or another method."

In 2014, in a six-month project funded by Growing Forward 2, Schneider and AF colleague Valerie Carney, a poultry research scientist, developed recommendations for the best way to clean eggs in a hatching operation. Since then, these have increasingly become standard practice, allowing producers to increase their hatch rate and reduce the need for antibiotics.

Cleaning Method Comparison

These AF professionals began by surveying Alberta hatching egg producers on exactly how they clean their eggs. Of thirty such operations in the province,

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AFSC IMPORTANT DEADLINE REMINDER

Perennial Crop Insurance - October 15, 2016 Last day to file Hay and Export Timothy Hay Harvested Production Reports.

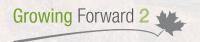
Honey Insurance - October 30, 2016 Last day to file Honey Harvested Production Report.

Prior to November 1, 2016 - Bee Overwintering Insurance Notify AFSC 14 days prior to wrapping hives. Coverage will not apply to hives wrapped after November 1.

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they received information from fifteen. "Of fifteen hatching operations, we found that eleven different methods were being used," says Carney. As she explains, each egg has thousands of tiny pores where bacteria can hide. Even though an egg may appear reasonably free of dirt, it could still harbor bacteria. A thin cuticle on the shell provides protection for the shell – and the chick inside – but if the cuticle is compromised, it could expose the chick to bacteria.

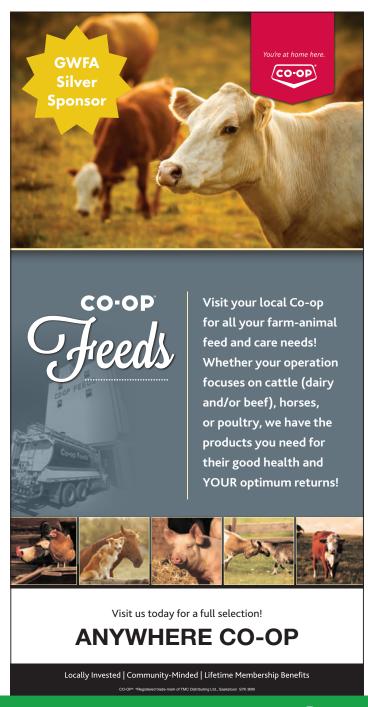
To determine which egg-cleaning method worked best, Carney and Schneider visited egg barns, gathered eggs, and cleaned them in the eleven different ways producers were using. They then sent the eggs to an AF lab for testing, to determine which cleaning method minimized bacteria most effectively.

The Top Two

The most effective method was to use an egg-washing machine. These machines use water warmer than 42 degrees C, as water temperature was found to be significant in taking out bacteria. At a cost of \$7,000 to \$8,000, an egg-washing machine is a significant investment, but one that, given what's at stake, more producers may consider making. The second-most effective method was Clorox wipes. Considerably cheaper than the egg-washing machine, this method nonetheless did a good job. The active ingredient in the wipes is known to be benign for chicks.

In the next phase of this project, Schneider and Carney developed a range of printed information detailing which cleaning methods are preferable. You'll find their poster on many hatching barn walls, guiding workers through the correct process. Schneider and Carney's findings have since been incorporated into technical materials published by both the provincial and national organizations that represent hatching egg producers.

Recently, AF conducted a survey of producers to ask whether the new egg-washing recommendations were being implemented. The survey indicated the procedures have been widely adopted in the industry. Cleaner eggs means less chance for bacteria to develop, which in turn means healthier chicks and less need for antibiotics and the associated cost. To Schneider, this is a worthwhile dividend from a relatively simple change in management practices. "One producer told us that washing eggs more effectively had increased his hatch by 1 percent," she says. "That's quite a difference and this project made that possible."



SEPTEMBER | 2016 PAGE 9

Watershed Friendly Feeding Sites

Winter Feeding Sites to Reduce Impact on Watersheds

OCTOBER 27, 2016 8:00am - 11:30am Homeglen Community Hall

* Free Presentations & Breakfast *

Come hear about the importance of proper winter feeding site selection, including impacts to surface and ground water quality, as well as soil health and quality.

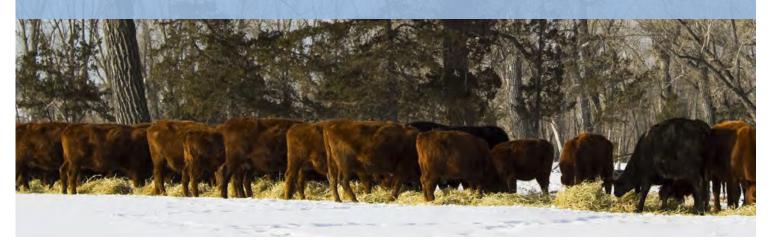
Sharon Reedyk (AAFC) * Chris Ullmann (AAF)

"Growing Forward 2" program going forward!

Mike Hittinger (AAF)

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What's the Plan for Next Year?

By Brenna Knopp, P. Ag, Agronomist, Benalto Agri Services Ltd.

As harvest begins to wind down, it's sometimes difficult to begin the process of thinking ahead to next spring. However, decisions made now can have a major impact on our outcomes next fall. Whether you are a grain, hay, cattle or mixed farm it is important to sit down and assess this year's results and make plans for next year's growing season.

One of the principal factors when planning for the next growing season is determining your goals. For some, these goals may be financially based, while for others they may revolve around improving production or yields, disease and weed management or improving time management. As we begin to delve deeper into planning we must examine our goals more closely and start to ask ourselves some of the most basic questions. What type of land do I have? What am I going to use the land for? Is it pasture, forage or crop? Is our goal to maximize production, increase stand longevity or extend grazing time? How are we going to manage for different environmental factors and those that limit our production such as weeds? By answering these questions, we can lay the foundation for a plan for next season and beyond.

No matter what the intended goals may be, it is important to have a starting point to work from. By sitting down and writing out goals you can begin to formulate a plan for the next growing season. This will give you something to start with, use as an assessment tool in the future and better allow you to determine what is working, what isn't, and why. If you have a plan from last year it can give you

starting point to build from. If not, build on your goals and construct a plan by asking yourself a few more questions. It is important to go field by field. What crops were in what fields? Did you spray herbicides or fungicides and if so what? Were the yields as expected? Did you have a problem field for weeds or quality? What resources do we have available to us both financially and physically? Was there anything that stands out that needs to change for next year? Maybe we need to change a crop rotation to allow for better weed control or help reduce disease pressure. Perhaps herbicides applied this season will limit what crops can be grown next spring. If yields were lower than expected, we may need to look at seed variety or nutrient availability. Do we need to plan for soil testing to help ensure we are applying the right nutrients at the right rates and not limiting yield or wasting money on excess fertilizer. Maybe our goal is to better manage costs for next year so making a detailed plan of all needed inputs may be necessary. All of these details can help provide a starting point for next season.

While planning for next season may seem daunting at first it can be an effective task and provide insight to ensure next season moves more efficiently. If you still aren't sure where to start, that's ok. There are resources out there to help you. Agronomists are here to help you not only with in-season decisions but long term planning as well. Don't hesitate to stop in and have a chat with your local agronomist, ask some questions and get started planning for next season.



3D Fencing Project Sponsors



SEPTEMBER 2016 PAGE 11

Frost & Nitrates in Forages: Some Rules of Thumb

By Karin Lindquist; Forage Beef Specialist, Ag-Info Centre, Stettler AB, Alberta Agriculture

This fall has been making things quite interesting for producers, from periodic rains to periodic frosts, delaying time to get in the field and get the harvest in. The common worry this time of



year is with nitrate concerns in cereal crops and canola, and with hay and pasture stands. Each farm's situation is different, but some basic rules of thumb with regards to timing for harvesting remain the same for all.

All cereals - oats, barley, rye, triticale, and wheat - are able to accumulate nitrates. Corn and canola are notorious nitrate-accumulators as well; both may be the worst. Nitrate (NO3) accumulation comes from the roots. Roots are going to push up excess nitrogen and store it in the leaves and stems. Growing plants tend to store more nitrogen in these parts than more mature plants. Nitrogen is converted to nitrates in the plants.

Plants that are stressed most commonly by frost or hail, push nitrates up in response to the damage they have received. Growing plants that have not yet headed out are pushing up more nitrates than plants that are more mature. Plants that are reaching maturity, but not at the hard-dough stage will accumulate nitrates primarily in the lower third portion of the plant, and nothing in the seed-heads.

Nitrogen in the soil from manure or commercial fertilizer will also increase nitrate levels. How much is put down is the biggest factor: The more fertilizer put down per acre, the greater the nitrate risk. Nitrates are more likely to accumulate in plants with both fertilizer inputs and a damaging frost.

Damaging frosts are where temperatures only go down to -1 to -3°C; killing frosts occur when temperatures reach -5°C or lower. Unlike a damaging frost, a kill frost acts like a bomb inside the plant, obliterating any possibility of the plant recovering and continuing to cycle its nutrients.

Damaging frosts just shake up the plant but does not kill it out-right. To test if the annual crop had a kill frost or not, squeeze the kernels between your fingers to see if the liquid coming out is clear or milky. If milky, it was a damaging frost, and the plant is still functioning. If clear, the frost was enough to kill it.

Basically, the rule of thumb for cutting cereals, canola, and corn after a frost is that you only have a couple days to get in there and cut what you can, before having to pull out and wait for 10 to 14 days later. Nitrates peak 3 to 5 days after a frost. If you cut around that time, or even a few days after, you lock in the nitrates in the feed. Unfortunately there's nothing that can be done about it, except test it and dilute it with other non-nitrate-accumulated feed.

With a kill frost, you would be in the clear to keep cutting into days 3, 4, 5, etc. But here's the clincher: a kill frost that kills the plant around that 3 or 5-day nitrate-peak mark that occurs after a damaging frost, will lock in the nitrates in that plant. But, if the killing frost happens, say, day 10 after the last damaging frost, then you're in the clear to keep on harvesting. Now, with hay and pasture, nitrates are no concern at all. Alfalfa does not accumulate nitrates, not unless a huge amount of manure was put down that spring. Perennial grasses do not either, primarily because most producers don't put down enough fertilizer to allow nitrate accumulation to happen.

Legumes including alfalfa tend to store excess nitrogen in the soil, rather than in the leaves and stems. When a frost hits then, it actually makes it well and good for cutting a hay field that hasn't been cut all summer due to the rains. No wait period is necessary; the sooner you get it down the better. Alfalfa will actually loose leaves if it's left uncut 4 or 5 days after a frost. Frost is actually a good thing for alfalfa. It forces the plant to, essentially, go to sleep, and stop cycling nutrients. When a good kill frost or several light frosts occur this will slow the

continued on next page...

growth of the plant so that when its cut, it will not regrow and use up root reserves it needs over winter and into spring growth.

It's also more safer for livestock to graze; Plants aren't cycling nutrients and are not actively growing, so they're actually drier and not full of lush, easily-digestible sugars and protein. If there's grass in with the alfalfa stand, that makes the bloat-risk decrease even more so. But when moving cattle from a mature grass stand to a stand that is predominantly alfalfa, you still need to feed some hay for the first few days to allow their rumen microbes to adjust.

Frost in forages can be a curse or a blessing, depending on what's being grown. In annuals, timing is critical in getting things cut before nitrates have peaked. In perennials, frost is a friend, making it less worrisome to harvest hay and not risk winter-kill in alfalfa. Whatever happens, the hope is that a good harvest is done and gotten in before the snow flies!







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SEPTEMBER 2016 PAGE 13



29th Annual West Country Ag Tour Highlights

Clearwater County hosted the West Country Ag Tour on August 25. Participants learned about bison, local plants, raising poultry on pasture, alfalfa trial plots and explored a modern dairy farm that is operating in its third operation. This social and educational tour included a wagon ride at the National Historic Site.









Get the Jump on Weeds for Next Year

By Harry Brook, Crop Specialist

Growing conditions have been close to ideal for crops and for weeds. With such prolific weed growth, it's not too early to consider post-harvest weed control. Conditions are good this year for some excellent control against perennial and winter annual weeds. Winter annuals are weeds that germinate in the fall or late fall, form a few leaves, and go through the winter in a rosette form, and go to seed quickly once spring comes. Common winter annuals include stinkweed, shepherd's purse, scentless chamomile, narrow-leaved hawk's beard, bluebur, stork's bill, flixweed, and common groundsel, among others.

These plants develop their own anti-freeze, preventing them from dying. It gives the plants an advantage the following spring as they send up a seed stalk and go to seed before most other plants get started. Winter annuals deplete soil moisture and nutrients in the fall and spring. They can be very competitive against fall and spring seeded crops. Often, a spring herbicide application is too little, too late, as the plants are already going to flower or seed and are much more difficult to kill.

Under conventional tillage, these weeds were not a big problem. A late fall tillage operation would control them easily. With the switch to conservation and zero tillage, these weeds have gained prominence as serious spring weed problems. Without tillage, other control strategies need to be used and one cost effective method is a late fall application of herbicide.

The best time for a fall application of herbicide is from late September to mid or late October, depending on the fall and the problem weeds. However, a successful fall weed control program requires the right conditions. Weed control, even after a frost, can still be very effective as long as the weeds have some green, actively growing plant material. Timing of application then, is most effective because the plants are small and more susceptible. Also, you get as many weed seeds germinating as possible.

Winter annuals are able to continue growing, even after the first frost, until the ground freezes. Most winter annuals can be controlled in the spring, except for narrow-leaved hawk's beard, but control after they bolt is a lot more expensive and less effective.

Herbicide options are very economical in the fall. Chemicals like 2,4-D and MCPA provide good control and, at recommended rates, will be safe for most crops the subsequent spring. It is important to know the problem winter annuals you have so you can pick the best herbicide for it. Glyphosate works well in mixtures, on many winter annuals but it may not be the best one depending on the weed.

Other common herbicides used for winter annuals, other than MCPA, 2,4-D and glyphosate, are dicamba, tribenuron-methyl and bromoxynil. Check with the label to ensure there is no problem with residual chemicals on the following spring crop.

Problem perennial weeds like Canada thistle, quack grass, dandelion and sow thistle are best controlled by a fall application of herbicide. Once again, the plants need some green leaf material and be actively growing. Dandelion seedlings are easy to control in the fall but, after overwintering, they almost become bulletproof.

Winter annuals are a persistent, increasing problem under reduced tillage. Under the right weather conditions, a late fall spray can repay you handsomely with reduced weed competition next spring. If the weather's right it could be worth your time and effort.

Published by:

Little Tree

D E S I G N S

www.littletreedesigns.ca

SEPTEMBER | 2016 PAGE 15

Grey Wooded Forage Association 2016/2017 Memberships

Memberships are available now for \$20.00, and run from April 1, 2016 to March 31, 2017.

For more information, call 403-844-2645.

Membership is open to anyone interested in forage production and grazing management in an economically and environmentally sustainable way.

Membership Benefits:

- Receive discounts on courses, seminars, workshops, and tours when discounts are offered
- Farm calls at \$100/visit and free consultation by phone, email, or office visit, on grazing management and any other forage production questions, effective immediately.
- Receive "The Blade" monthly via a link sent to you by email each month or Receive a printed copy of "The Blade" in the mail monthly for just \$10/year printing/postage fee. (In addition to the \$20/year membership fee)
- Receive up-to-date information on GWFA activities via "The Blade", the GWFA website, and by email.

Please fill out and mail the portion below with a cheque for \$20, or \$30 (\$10 printing/postage fee for The Blade added) to:

Grey Wooded Forage Association Box 1448, Rocky Mtn House, AB, T4T 1B1

PLEASE PRINT CLEARLY:

Renewal or New Member	Your Preference: Email Canada Post
Name/Company Name:	Phone:
Address:	Mobile Phone:
Town/City:	Fax:
Province & Postal Code:	Email:
Please give us an idea of what area of forage producti Controlled Grazing & Pasture Management Growing Annual Forages for Extended Grazing or Swath Grazing Soil Biology Growing Hay Ration Balancing	on you are interested in: (Check all that apply) Growing Annual Forages for Silage or Greenfeed Pasture Rejuvenation or Renovation Low Cost Cow/Calf Production Environmental Sustainability Economic Sustainability
Comments:	