Grey Wooded Forage Association

"Creating an Awareness of Forages"

ARECA

AUGUST | 2016

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In this Issue:

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Photo Credit: Leitch Family

Mission Statement

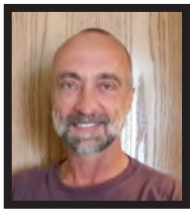
To promote environmentally and economically sustainable forage and agricultural practices.

Vision Statement

The community is engaged in regenerative agricultural production methods.

Message from the Chair

By Ken Ziegler



Well folks, as I write this note, we are under a Severe Thunderstorm Watch and the clouds are developing. Although the frequent moisture is wonderful for regrowth and filling crops, it certainly is a headache for those wanting to put up dry hay.

The options are quite clear for putting up dry hay. Wait til it stops raining, maybe later this month or September, when it's quite ripe with lots of stem or, cut it now and rake it about six times before you get a small window to bale resulting in feed that's both discolored and nutrients lost. Also ending up with lots of stem.

So at what point does it pay to get the feed harvested as high moisture haylage?

The reason I focus on this topic today is to draw your attention to the "Feed in a Flash" field day being planned on the 17th of this month. In partnership with the Central Alberta Hay Centre, we're hoping to show you some haying options the might help reduce haying risk.

Check out the notice in this copy of The Blade. The details for the day and to register are there. Ginette, Devin and the folks from the Hay Centre have planned a good afternoon. Hope to see you there.

Secondly, check out the notice for the High Legume Pasture Field day planned for the morning of the 17th. The morning will focus on Sanfoin growing with alfalfa which can be grazed with little risk of bloat. Sanfoin is very high in Tannins and when the animals eat it along with the alfalfa, the tannins significantly reduce the risk of bloat.

Both sites are located within a few miles of each other to make it easy for you to attend both. If you possibly can, make it a priority to come to check out these to management topics that could change the way you make your living.

Ken

Manager's Notes

By Ginette Boucher

Greetings! Wow, another month has passed and the rains continue to inundate us at the absolute worst possible time. This clearly is a year where silage will be a big part of your winter feed. You will see in this publication a couple articles dealing with silage and feed storage.

We are preparing for our High Legume Field Day on August 17th from 9-12am at Murray Abel's farm; and our Feed in a Flash event from 12-4pm at Rob Luymes' farm. The morning event will start off at Murray Abel's farm, where we'll hear Murray Abel and Leon Specht share their experiences with establishing and grazing high legume pastures. Alberta Agriculture & Forestry will share their insight on the project and purpose. Following the speakers will be a question period.

At noon, we will head to Rob Luymes' farm two miles away for exciting haying equipment presentations and demonstrations, organized in conjunction with Central Alberta Hay Centre. Various equipment will be featured including two types of Disc mowers, (one with a conditioning crimper and one without) Tedder and Rotary Rakes, Silage Balers, Baler & Wrapper Combination and two types of bale wrappers. Also included at this FREE event, lunch by HT Catering & Meats from Lacombe. Registration is required. You don't want to miss this event. Register by phone, email or Eventbrite on our website.

Clearwater County has invited us to host a site on the West Country Ag Tour on August 25th. The first stop will be at Doug & Deb Skeels farm where we will feature our alfalfa project. Agriculture and Agri-Food Canada will also be present and will be sharing their research and insight on this and other alfalfa projects. Be sure to register with Clearwater County if you have plans to attend.

Eckville Coop Agro Centre has invited us to participate in their field day featuring the corn plots you see on highway 11 east of Condor. This tour is scheduled for September 1st and will start from Innisfail; be sure to contact the Eckville Coop Agro Centre if your interested in this tour.

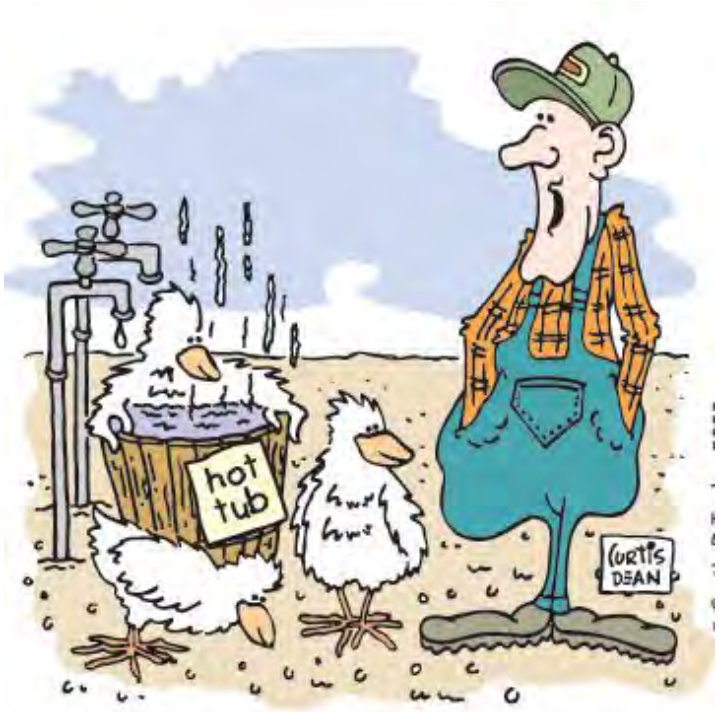
Our Agriculture Opportunity Fund Grant Agreement has been signed for the 2016/2019 program years. Thank you AOF for continuing to fund our program.

We have secured a contract agreement with the Medicine River Watershed Alliance in regards to project management of two thistle weevil demonstration sites. This is a five-year commitment commencing on September 1st 2016. GWFA will be providing the protocols, will do the data collection and manage the overall project. We thank the MRWA for partnering with us in this thistle weevil project.

We have also secured a contract agreement with the County of Wetaskiwin; we will provide protocols for their project management in exchange for sharing the data collected and recognition of the partnership through the use of our logo on signage and brochures. Thanks to the County of Wetaskiwin for partnership in this project. We are currently in the midst of developing a contract agreement with the County of Lacombe and will give you an update when it is available.

I took a two-week vacation in July and went to a family reunion in Quebec. What a contrast in weather. Eighty percent humidity and twenty-seven degrees most days makes for a drastic change in temperature. My daughter Jasmine came with me. We travelled through Montreal, Mont-Laurier, then Val'dor Quebec as our final destination was the old family farmstead my grandfather homesteaded in Saint-Gertrude Quebec. A great family reunion took place. Heading back to avoid the Toronto 401 traffic we choose to travel by way of Manitoulin Island on Lake Huron, where we took a swing bridge to get on the Island and a fairy to get off. All in all, we had an excellent vacation and I have returned to work very refreshed.

Best regards,
Ginette



"Okay, which one of you has been laying the hard boiled eggs?"

Hay Preservative - When Mother Nature Won't Cooperate

By Richard Sietzema, Canadian Hay & Silage Ltd. (www.canadianhayandsilage.com)

Canadian Hay & Silage Ltd.

Being a hay producer in Western Canada can be quite a challenging task at times due to the inconsistent weather patterns we seem to have here.

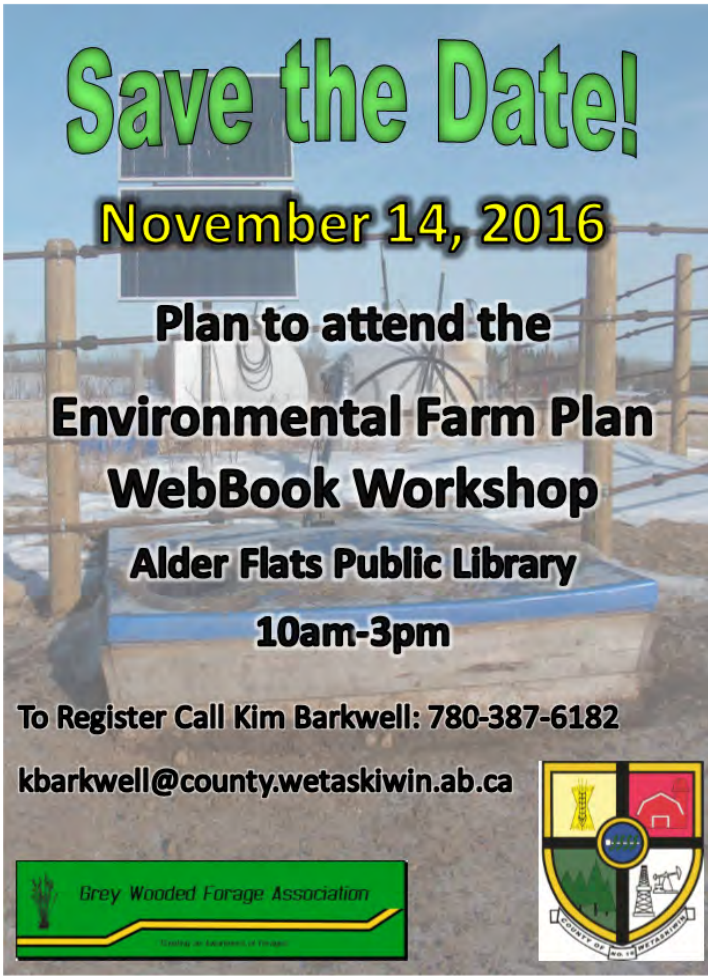
Trying to find a 5 to 7 day "haying window" seems to be more of a challenge all the time. Producers can use all the help they can get to reduce this "haying window" by using modern haying equipment or by applying a hay preservative (also referred to as propionic acid) at baling time. It extends baling time and decreases drying time.

We have seen a significant increase in sales and interest in the last number of years in applicators and hay preservative. The original acid products were unbuffered, highly corrosive and difficult to work with. Much work and research has been done to improve these products over the years. The modern hay preservatives have buffering agents as well as dispersing agents to help ensure even application and quality and to help prevent corrosion of equipment.

The most common question I always get when first talking with a producer is "What moisture can I bale at using hay preservative?" and "Can I bale wet uncured hay?" My answer is always the same. There is no cure for uncured hay. If you have wet, uncured hay, you should think about silage wrapping. To use a hay preservative effectively, the hay should be cured. It is most effective to use a hay preservative when there is high humidity, early or late dew or the ground is too wet under the swath which prevents the hay from totally drying.

Application at the correct and uniform rate is key for any preservative to work properly. Producers should always use the highest average reading on their moisture testers and apply the proper recommended rate accordingly. I always recommend not to exceed 20% moisture on round bales and less when making large square bales. Producers with round balers can usually bale at higher moisture levels than those with large square balers due to the density of the bales and the way the bales are stacked after baling. Currently, Applicators cost around $1300.00 for round balers and more for the fully automated large square baler units. Preservative costs are around $6.00 per tonne depending on the application rate.

Hay preservative is most economic when used strategically to avoid rain damage and mold with poor and adverse weather conditions. It is also most effective for producers with high quality, dense forage bales. Hay preservative is yet another tool forage producers can use when Mother Nature won't cooperate!



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Bees Make a Comeback

From Growing Forward 2; Growing Forward 2 is a federal-provincial-territorial initiative.

In one way, agriculture in Alberta is all about scale: millions of head of livestock, millions of acres of canola, billions of dollars each year in economic impact. In another way, the smallest participants more than pull their weight. Alberta's bees, raised and managed by 1,000, mainly small-scale beekeepers, play an indispensable role in crop pollination and make a thriving honey industry possible too.

The good news is, Alberta's bees are currently strong and healthy. The deeper story is just how close the province came to losing this priceless resource. Medhat Nasr, Provincial Apiculturist with Alberta Agriculture and Forestry (AF), has been closely involved in the challenges and comeback of the province's bees in recent years. "Over the past 25 years, average winterkill of bees across the province has been 15 percent to 18 percent," says Nasr. "Starting in 2006-07, we saw a few years where winterkill was up to 40 percent per year. We started looking at what had failed in terms of management practices to cause this level of winterkill."

A Perfect Storm for Bee Mortality

With funding from Growing Forward 2 and others, Nasr began the apicultural detective work of finding the causes behind this dramatic increase in winterkill. Time was certainly a factor. If annual winterkill losses continued to be 40 percent, the province's bee population could reach a tipping point from which recovery would be very difficult. Beekeepers were understandably worried. Over the next few years, Nasr fielded 1,500 phone calls from producers trying to cope with these challenges.

While similar dynamics were playing out across North America, Nasr studied the question with specific reference to Alberta. One major contributing factor was that the varroa mite, a pest that affects hives and bees, had developed resistance to the chemical products used to manage it.

"We started working on alternative products to bring to the industry," says Nasr. "We found a product in France known as Apivar that had no cross-resistance to other products around the world. The active ingredient was about to be deregistered here on the grounds that it had no use in Canada. Within eight months, we were able to secure Apivar for Canada."

By using Apivar, and implementing new management practices to enhance bee health, hive numbers in Alberta began to recover. By 2015, Alberta had 295,000 hives, even higher than the last pre-crisis year, 2006, when the province had 250,000 hives. Aided by mild temperatures, careful management, and good varroa mite control, the winter of 2014-15 saw Alberta's lowest-ever bee winterkill at just 10 percent.

Back From the Brink

To guard against the development of Apivar resistance, Nasr helped shepherd another control product known as Hopguard to registration. In 2015, with funding from Growing Forward 2, he led development of the first bee health app in Canada, called Honey Bee Health. The app, which helps beekeepers implement health management practices, has been downloaded more than 3,000 times by beekeepers all over the world.

As Nasr looks back, he's proud of his role in the comeback of Alberta bee populations, and glad Growing Forward 2 funding was available. All things considered, it was a close call. "Thirty or forty percent winterkill year after year; if you add that up, we should not have an industry," says Nasr. "Our program was built on finding causes, giving producers new tools, and communicating better management practices. That is how we came out of the dark days to where we are today."

Growing Forward 2

A federal-provincial-territorial initiative

Hay Storage

By Devin Knopp, P.Ag.

This haying season has seen a lot of extremes. The very dry spring and now a wet July and start to August has created a difficult haying season. There are different qualities of hay being made. Some early cut hay was darkened, while some producers managed to get a few quality bales made between storms. Now as we get into August, the quality in the standing hay is changing as it begins to mature out. With these challenges producers need to ensure proper storage to help preserve feed quality and prevent any further deterioration.

There are a few different methods that can be used for stacking round bales in your fields or stack yards.

The mushroom stack, where a bale is placed on end and the other is placed on its side on top. This method is alright, but there is always the issue of water, snow and ice buildup on the flat edge of the bottom bale. Water can penetrate the bottom bale creating spoilage decreasing the quality of the hay.

The pyramid or triangle stack with three bales on the bottom, then a row of two, and a single on top is probably the hardest type of stack to maintain. If left un-tarped, moisture can get into the interior of the stack and run the entirety of its length creating spoilage wherever bales are touching. If it is tarped, there is a risk of condensation buildup under the tarp. There are many factors that can cause this, but sharp temperature swings or a couple of higher moisture bales can heat up, creating condensation under a tarp. That moisture can run into the interior bales creating spoilage, because a tarp doesn't allow proper air movement.

The best method for outdoor storage is a single row of bales on their side. The bales will shed the water and if there is adequate drainage water will run away from the bottom side of the bale. In an ideal situation netwrap is better for storage than string as it acts like a breathable raincoat. Water runs down the tiny strands of material to the ground and is kept away from the bale. String bales have a larger surface area of exposed hay that can absorb moisture into the outer layers of the bale. However, stacking a single row may not be possible if you don't have adequate space in your stack yards. Hay sheds are the best method to store bales, but make sure there is adequate ventilation so condensation can't build up.

If spoilage occurs in the bale, this can result in a few hundred pounds/bale of lost feed. There will also be a decrease in feed quality as protein and digestible energy can decrease by a few percentage points in the bale. If this occurs the volume of feed may have to be adjusted or a feed supplement added to make up the lost nutritional value. Protein content and digestible energy of forages is very important for calf development and cow health during times of high nutritional demand just before and during calving season. Getting your feed tested will tell you exactly what you have and allows you to plan so you feed poor quality hay during the period of lowest nutritional demand during fall and early winter.

Decreasing the amount of weather exposure to your bales is key in preventing spoilage and preserving forage quality. Small changes can be the difference in preserving nutritional quality and losing it. This will be particularly important this year as we struggle with quality of hay instead of quantity of hay.

Women in Farming

By Amber Kenyon - Greener Pastures Ranching (www.greenerpasturesranching.com)

As one of the few people in our area that are first generation on the farm, I was treated to a very steep learning curve when I met my husband. I would often ask things like "well how do women do that", while watching him do things like fixing barbed wire fences, hauling and handling heavy square bales, moving large protein tubs, cutting high tensile wire, washing out trailers with water line from our troughs and above all, closing the notorious, big, bad barbed wire gate.

Now if my husband is anything like most other farmers out there, he has ways of getting all of these things done. Ways that have worked perfectly well for him his entire life. Ways that require a strength that the average woman (or at least myself) just does not possess.

Through trial and error I have found ways around most of these chores. No thanks to good old Google. A while back I did try googling "women fencing tips", I figured that there must be easier ways to get some of these things done. Imagine my surprise when the first couple of suggestions that came up were recipes!

According to Google I had been going at this whole farming thing from the completely wrong direction. Here I was trying to do all of this hard work when really all that I needed to do was cook some decent meals for the men who would do it all for me!

Okay, realistically we all know that big, strong men don't always just appear when we cook a meal. So how do we get around some of the more heavy duty chores as women, especially when your husband won't buy you a tractor no matter how much begging, pleading and cooking that you do? Sometimes we just need to get more creative.

I have to say that my fence stretcher is probably one of my best friends on our ranch. Although Steve's hammer trick to tighten barbed wire does a terrific job and gets the fence a lot tighter than my stretcher will do, I either have not perfected the art of using a hammer or just simply don't have the strength required in my hands.

My fence stretcher will help me hold many things tight. Not only does this terrific tool allow me to repair fence like a professional, it also helps me open those torturous gates! Now if only I could find an easy way of carrying it while checking fence lines on foot!

When it comes to moving protein tubs, and handling square bales and washing out trailers. I have learned that the age old adage of slow and steady wins the race is definitely true. When it comes to protein tubs I will often drag them off of the truck or trailer and proceed to drag them a little bit a time until they are where I want them.

Bales are quite similar, while I can lift the dry ones, wet straw bales have become one of my larger nemesis. Again I take these a little bit at a time, lifting one end at a time. The same thing goes for washing out trailers and manipulating water line. I may be slower at getting some of these jobs done, but they always do end up finished in the long run.

For cutting high tensile wire I have found that using the good old wire cutters that are in the back of the truck isn't always the easiest job in the world. Although I'm sure that it would have looked quite humorous if someone had been watching me trying to jump on the handles in order to have the pressure needed to cut the wire. For this exact reason another one of my good friends has become my high tensile wire cutters. They can be hard to find and a little

more expensive than the traditional ones, but well worth the cost as they save a fair bit of time and a lot of headaches.

Things have gotten a lot easier since my first few days on the ranch. Between learning different tricks to negotiate some of the harder chores, and getting physically stronger through sheer force of will to get the job done, I have found ways to do almost every job that I've seen my husband do.

I have found that not believing in the word "can't" and being willing to make the mistakes that are bound to happen in any industry are imperative to getting the job done and truly enjoying your career as a rancher or farmer. While recipes on Google are definitely a lifesaver in the kitchen, I truly love the labour side of ranching and would not trade that part of my job in for all of the delicious meals on the internet.

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To register, please contact Steve Kenyon:
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If You Can't Make Hay, Make Baled Silage

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

Hay can be next to impossible to make when the rains keep coming and the weather won't let you get good dry hay. So what do you do? One alternative you have is to make baled silage.

Baled silage, also known as "haylage," has gained popularity over the last couple years. It comes as either individually wrapped bales, or in tubes. A great advantage of haylage is the reduced leaf loss and higher feed quality and yield. A bigger plus is that you are not at the mercy of the weather as much; you can harvest when it's ready instead of waiting for a dry spell that may be too late in coming.

When making haylage it's very important that bales are wrapped as tight as possible to minimize air pockets in the bale. Moisture content should be from 45 to 55% for safe storage and adequate fermentation. Too much moisture and the bales become literal popsicles--too frozen for livestock to eat. Too little moisture can result in excessive spoilage and limited fermentation activity. However, there have been producers that have made haylage at around 30% moisture. Even though this can stop mold growth and still generate enough fermentation, these bales must be fed this winter because they will not keep to next summer.

Bales shouldn't be made full-size either; instead make them two-thirds to three-quarters the size of a hay bale. A full-size wrapped bale silage can be too heavy for some loaders or tractors to handle.

The chef's secret recipe for making good silage is minimizing air pockets and preventing any air getting into it once wrapped, and to adjust the pick-up header as high as possible so that you don't pick up any dirt that may get into the bale. Soil can cause spoilage because of the bacterial contamination.

To get the best quality haylage, cut the crop when plants (both grasses and legumes) are in early bloom stage. Allow for one to two days to let the plants wilt down to the correct moisture. If you leave the swaths on the ground longer and they get rained on, the quality diminishes, and spoilage is more likely to develop. For that reason it is not an option to salvage rained-on or weather-damaged hay. Once the damage is done, it is too late to save the hay and preserve any value that remains.

Once baled, you need to get them wrapped immediately or within 5 to 10 hours if possible. Spoilage increases greatly if you let them sit unwrapped for longer. Use good quality plastic that creates a complete seal and prevents air from getting into the bale. Four to five wraps will be enough to get that desired seal.

Ensiling is equivalent to pickling; you're getting the forage to where you have good quality and can keep it for long-term storage. Tubed bales must have all the air removed after packing; use of a shop-vac will help with this. All you need to do is cut a hole in the plastic the same size as the hose of the vacuum, stick the hose in, and let the vacuum do the rest. When you hear it start squealing, which may take anywhere from 20 minutes to over 2 hours, it is time to remove the hose and seal up the hole immediately after.

Once wrapped, oxygen-consuming bacteria use up available oxygen in the bales. Too much oxygen gives excessive heating, which leads to spoilage. After the oxygen is used up, anaerobic (lack-of-oxygen-loving) bacteria use up the sugars in the forage and give off lactic acid. Higher lactic acid levels increases acidity, leading to fermentation of the forage.

Once ensiled, it is important to not let any air get back into the bale because spoilage can occur. Any other tears or holes you find in the plastic must be repaired immediately.

When opened, individually-wrapped bales stay

good for only about a week. A bale or more taken from a tube will keep its quality for the same length of time.

Haylage is a great alternative to consider when the weather is creating too much of a challenge for making hay. Costs are higher on a per-tonne of dry matter basis, but with wrapped bales protected from the elements, it ensures that you have the quality feed you need to get your animals through the winter. If you're going to be making haylage, make sure you plan ahead before you decide to begin cutting.

Sustainability and Size

By Ted Nibourg, B.Sc.Ag, M.Ed; Farm Business Management Specialist, Ag-Info Centre

Size matters. When evaluating the efficiency and profitability of a farm operation the size of that operation and how resources are allocated to meet the needs of the operation have a big bearing on the sustainability of the farm business. The basic economic theory explaining how size affects a farm's profitability is called economies of scale. When more production can be achieved on a larger scale with lower average unit input costs, economies of scale are said to be realized.

What does this mean to the average farm? According to the Agriculture Statistics Yearbook 2014 (the most recent published), the average farm size in Alberta is 1168 acres. Average realized net farm income in 2014 was $27,488. In 2013, average realized net farm income was $16,734. If a farm family requires $60,000 per year to maintain itself, then the farm would have to be at least 2350 acres to achieve this in 2014. In a poor year like 2013, the farm would need to be around 4187 acres just to maintain a reasonable lifestyle. Some of the literature published on farm sustainability indicates that a viable farm size ranges between 3500 and 5000 acres.

If we consider the cow side of the economic picture in Alberta we find similar economies of scale. Using AgriProfit$ data from 2010 (the start of the profitability cycle in the cow/calf sector) one finds that the average contribution margin for Alberta beef producers is $176 per cow wintered. Using our $60,000 benchmark, it would mean that our reference farm family would need 341 cows to meet their needs assuming all their income was generated from the cow herd. In 2010, some low cost ranchers were able to achieve contribution margins of almost $290 per cow wintered. They were able to achieve economies of scale on the cost side. A farm family with these kinds of economies would only need 207 cows to be viable.

I have often said that economies of scale on the cost side can be realized by proper machinery sizing. Taking our average farm size of 1168 acres and using a small Class 5 combine with a field efficiency of 8.5 acres hours, that combine would only run 138 hours every harvest. Running the numbers through AF's Machinery Cost Calculator, the cost per acre for that unit would amount to $53.87. If the farm manager could double the numbers of hours used every fall (either through renting more land or custom combining), his per acre cost would be reduced to $30.08 - a savings of over $23.79 per acre. On his 1168 acre farm that adds up to almost $27,800. This is one way of explaining how custom operators are able to keep their charges under industry average machine costs. Custom operators are exploiting economies of scale by covering more acres and thus reducing their fixed costs per acre.

These are but a few examples of why size matters in agriculture. It also explains why we see a growing trend towards farm consolidation and the growth of larger farms.

If you have any questions regarding farm management, give us a call at the Ag-Info Centre. Our phone number is 310-FARM (3276).

The Golden Rules for Forage Establishment

By Surya N. Acharya; Lethbridge Research & Development Centre, Lethbridge, AB.

Agronomic practices that have resulted in rapid establishment of forage crops in western Canada arediscussed below. We believe these practices will work in other regions of North America forestablishing this group of small-seeded and difficult-to-establish perennial forage crops.

1. Choose the right crop and appropriate cultivar for the Region.

Picking the right crop and cultivar for the specific purpose and local conditions will contribute to developing highly productive forage stands. For maximum hay production, cultivars that establish quickly and produce high yield in the target soil-climatic region should be selected. Due to genotype by environment interactions, not all cultivars perform well under all soil-climatic zones. Therefore, it is important to choose an appropriate cultivar for the region. In the Canadian prairies, it is important that a forage crop cultivar has the ability to establish quickly and has high levels of cold tolerance for long-term survival, whereas disease resistance is important for irrigated areas.

2. Prepare the seed.

Some forage crop seed such as cicer milkvetch seed requires scarification for rapid and uniform germination. Waxy-coated seed will not imbibe water quickly and can remain in the soil for a prolonged interval without germinating, resulting in an uneven stand, characterized by weed invasion and poor biomass production. Although scarification is essential, seeds should not be scarified too far in advance of seeding. Studies have found that viability of seed decreases by as much as 50% over the course of 1 yr after scarification. Therefore, attempts should be made to plant cicer milkvetch seed within weeks of scarification.

Legumes grow well when they have healthy nodules on their roots. Seed inoculation encourages nodulation making the stand more productive. Rhizobia available commercially for specific forage legume should be used. The strains available may not be optimal for cool soil temperatures during spring in Canada, but use of any inoculum is better than not using one.

3. Seed into a warm seed bed in spring.

Most perennial forage crops should be seeded early in spring, as soon as the land can be worked. Seeding forage crops early in spring allows more time for slow-growing crops to establish well (prior to winter) and consequently results in better stands and high biomass yield in the Canadian prairies. However, crops such as cicer milkvetch requires warmer soil temperatures to germinate; therefore, it should be seeded in late May or early June to establish quickly. If seeded early enough, most forage crops including cicer milkvetch will produce substantial amounts of biomass in the establishment year and enter the winter in a healthy state.

4. Seed pure perennial forage stands.

Companion or "nurse" crops such as cereals or canola should not be seeded with cicer milkvetch or any other forage crop in areas with short growing seasons. In areas such as the Canadian prairies, there is little time for forage growth after the companion crop is harvested. In these areas, forage yields are normally reduced for at least one year after establishment with a companion crop. In some studies, the yield loss effect of companion crops was observed on forage legume stands for up to four years after establishment.

Annual companion crops vigorously compete with perennial slow-growing forage crops for valuable nutrients, water and sunlight, making the stand weaker than when the forage crop is in competition with weeds. It is important to note that a well-established and vigorously growing forage stand produces higher forage yield and weed-free forage

compared to a poorly established stand.

5. Seed shallow into a firm seed bed.

It is generally accepted that small seeded legumes perform best when seeded into a moist, packed seed-bed at a shallow depth. Small forage seeds do not have enough energy to grow through a deep layer of soil. On irrigated land, it helps to irrigate the seedbed 3 to 4 d before seeding. On dryland, direct-seeding (drilling) or broad casting followed by harrowing and packing helps emergence. Furthermore, it also helps to pack the seedbed before seeding or to use a seeder with a packer.

A LRDC "method of seeding" study conducted in 2001 confirmed this and indicated the usefulness of pre-packing seed beds. This study included seven seeding methods: 1) seeding with a LRDC custom-built forage seeder with packers before and after the pan drill; 2) pan drill alone; 3) hoe drill alone; 4) pan drill with packer; 5) hoe drill with packer; 6) broadcast followed by harrow and packer; and 7) broadcast followed by harrow. Seed was placed at a depth of 1.5±0.5 cm with the drills with packers. Depth of placement in the broadcasted and harrowed plots varied from surface to 5 cm. Mean plant counts 70 d after seeding per 0.25 m2 area for the LRDC forage seeder seeded plots were higher than the other methods of seeding.

The LRDC custom-built forage seeder also produced higher forage yield and cleaner forage (with very few weeds) than the other methods of seeding. This seeder has regular pan-type row openers, but is also equipped with motorcycle wheel packers in front and behind the pans. This arrangement has the effect of pre-packing the row, thus providing for packing of soil under and above the area of seed placement. It may also provide for better depth control, as the pans are cutting into soil that has been leveled and packed immediately ahead of the pans. It may be advantageous to harrow and pack a seed-bed before and after seeding. Commercial seed drills with packers would be desirable for a large scale forage stand establishment. We have successfully used zero-till drill for large grazing studies at Lethbridge and Swift Current.

6. Mow the crop to reduce competition.

Weed competition in the establishment year may seriously affect productivity of a forage stand. Therefore, it is essential to prepare a clean seedbed. Perennial forage crops should be mowed when seedlings are about 20 to 25 cm high. This operation does not harm the young forage plants, but helps reduce annual weed competition by opening up the canopy and reducing seed production of weedy species. Pruning causes the perennial forage crops to stool out and cover the ground quickly. It is difficult to select a herbicide for weed control in mixed stands and so use mowing as a cultural practice for such stands. Opening up the canopy gives the slow-growing seedlings access to light; otherwise they would be shaded by relatively fast growing weeds and other crops in the mixture with upright growth habit.

Knowing Your Cost of Production -
Important Piece to Running or Starting a Business

By Marissa Brewer; New Venture Specialist, Alberta Agriculture & Forestry

Cost of production is something that is worth taking the time to accurately determine, when starting and running a business, as it has a large impact on your businesses' profitability. Knowing how much it costs to raise, grow, produce or process your product enables you to calculate the price you need to make a reasonable profit. Also going from a base cost of production helps determine the income your operation needs to earn to cover all costs.

Consider - what if you can't find enough customers to buy your product at the target selling price you selected for your product? This could mean that your product is priced too high and you may need to determine if you can afford to reduce your price. However, reducing your prices while having the same cost of production as before, will mean the difference will come directly out of your profit, which is not a sustainable approach for most businesses.

The smart approach would be to analyze your expenses or costs that contribute to your cost of production and identify what operation activities have the greatest impact on your Cost of Production. This way you can determine if anything can be done differently to cut costs. One idea might be switching to a different packaging supplier or investing in more efficient packing equipment to reduce both your packaging and labour costs, thus reducing your selling price without sacrificing your profit margin and overall health of the operation.

Cost of production is a very powerful tool to increase your efficiency which therefore affects your profitability. Those that track their cost of production from month to month and year to year can review their data quickly to determine if costs are changing over time. Making it easier to re-evaluate their production practices to regain efficiencies and savings. The better handle you have on your cost of production the quicker you can react to changes in prices and costs and ensure you remain profitable.

To learn more about Cost of Production. Call 310-farm or visit the following links on Alberta Agriculture and Forestry's website:

http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sis15425

http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/info14465

http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/inf12059

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