UNIVERSITY OF WYOMING EXTENSION

NORTHEAST EXTENSION CONNECTION

IN THIS ISSUE

April-June 2014
Volume 14, Issue 2

Growing Small Fruit

By Scott Hininger
Profitable and Sustainable Agriculture Educator

All small fruit prefers a sunny location with good drainage and preferably a neutral ph and they like plenty of moisture and fertilizer. Therefore, before planting, incorporating plenty of organic matter in the soil will really help, and by using, a fertilizer with sulfur will help temporarily lower the ph.

Strawberry varieties are classified as June bearing, everbearing or day neutral. June-bearing varieties tend to produce the most flavorful, aromatic berries. Some recommended June bearers (one crop) for Wyoming are Guardian, L'Amour, Honeoye, Redchief, Delite, Jewel, Mesabi, A.C. Wendy, Cabot and Cavendish. Everbearing strawberries typically provide two main crops each year, with small amounts of fruit produced between the main crop in June and a lighter crop in late summer or early fall. Some of the more common everbearing varieties are Ogallala, Fort Laramie and Ozark Beauty. Day neutral varieties are similar to everbearers, but flower and fruit more consistently over the summer. Recommended day-neutral varieties include

L'Amour

Tribute, Tristar. Generally, for best production the strawberry plants need to be replaced every three to four years.

There are two growth-types of raspberries: summer bearing and fall bearing. Summer-bearing varieties produce flowers and fruit on canes that are in their second year of growth. Fall-bearing varieties produce flowers and fruit on canes that are in their first year of growth. Recommended summer-bearing red raspberries include Nova, Killarney, Boyne, Latham, Red Newburgh and Titan. Recommended fall-bearing raspberries include Autumn Britten, Anne (yellow-fruited), Polana, Jaclyn, Joan-J (nearly thornless), Himbo-Top, Caroline, Heritage, and September. Twenty-five feet of row should produce 15 to 20 pounds of raspberries per year. Remove the spent floricanes of summer-bearing varieties by cutting them off at the ground after they bear fruit. Dispose of these canes -- they often harbor insects and disease. In the spring, remove the dead, weak and small canes. Remove winter-killed tips of the remaining canes. Having a V shaped trellis is handy to keep this year's growth separate from last year's growth, which produced berries. Mow or cut the canes of fall-bearing varieties to ground level after the fall harvest. New canes will be produced in the spring. By planting, both types will give an early and late season bounty of fruit.


Indian Summer Raspberry

Elderberry plants are truly multi-purpose. Growing your own offers many unique benefits. You can plant several in a row to create an attractive hedge or screen, or you can use them as wildlife attractants that will bring even more natural beauty to your backyard. In spring, an elderberry plant features magnificently scented white flowers and, in summer, it will produce a bounty of dark purple-black berries that you won't find in many grocery stores. The berries from the elderberry plants can be eaten fresh as long as they are fully ripe, although they are commonly used for making delicious wines, jams, sauces, and pies. You can also use the flowers for making fritters, pancakes, or tea.

For something different try Goji Berry Plants which are Extra-sweet and extra-nutritious, antioxidant-jammed. The plants produce a valuable harvest you can freeze, dry or juice, in addition to enjoying the just-picked berries. In the spring, these pest- and disease-resistant plants develop showy purple flowers against gorgeous green foliage. These easy-care plants grow well in almost any well-drained soil and are also drought-tolerant. In early summer, fruit will begin to ripen into brilliant red little oblong fruits that will continue coming until a heavy frost.

Honeyberry Plants are members of the honeysuckle family and produce clusters of unique, elongated blue berries with a high level of antioxidants and a sweet, blueberry-like flavor that is good for fresh eating or making preserves. Long-lasting plants with a life span of up to 50 years! These plants are cold hardy and ripen in early summer. These fruit producing shrubs require a pollinator and it is always good to have two.

A BENEFICIARY-CONTROLLED TRUST

By

Bill Taylor, Northeast Area Community Development Educator

By Bill Taylor
Community Development Education Educator

Property and business owners are inclined to transfer ownership directly to the next generation so that their heirs can have the full use and enjoyment of the assets. But they lose out on the asset protection and estate planning benefits of a trust. A beneficiary-controlled trust can be a good compromise. Either immediately, or at the grantor's death, the primary beneficiary controls the trust effectively but retains the trust's protection and estate planning benefits.

Typically, a trust is designed to last for a short time after the grantor and spouse are deceased. The trust may pay out principal when the beneficiaries reach a certain age, or perhaps at two or three different age levels. This is very important in case the grantors die while children or other heirs are still young, and is perhaps the primary reason that most trusts are established. But if you and your spouse (as grantors) live relatively long lives, your children may have already reached the required ages, and full distribution from the trust may be immediate at your deaths. Such trusts can achieve important estate planning benefits such as maximizing use of the estate tax exemptions, or exclusion of life insurance proceeds from estate taxation. But they miss out on achieving greater long-term estate planning and asset protection goals.

Conversely, the beneficiary-controlled trust starts with the premise that the primary beneficiary (typically your child) is capable of managing the trust assets. So, the objective is to maximize asset protection, while putting as much control as possible in the beneficiary's hands. The goal is to come as close to outright ownership for the beneficiary as possible, while leaving the assets inside a trust.

There are five key elements to contemplate:

Longevity. The key is to create a structure that will continue for a long time – at least another generation. More than a quarter of the states have completely done away with the "rule against perpetuities" that limits how long a trust can remain in existence.

By creating a long-term trust, you also maintain a structure that protects assets from creditors and bankruptcy as well as from ex-spouses in a divorce, for a long line of descendants who will follow you. Setting up a trust can also potentially solve future personal and financial problems that you couldn't begin to anticipate at the time. You can also create an estate planning vehicle that takes advantage of current generation-skipping exemptions and builds in value without being subject to future estate taxes. Thus, the trust can achieve estate tax savings for future generations.

Trustee powers. Rather than appointing a truly independent trustee (such as a bank), you appoint the primary beneficiary as trustee, whether alone or with someone else. If you name an

additional trustee, he or she may have only certain powers. For example, the additional trustee could have duties regarding distribution and not investments. The primary beneficiary could have the right to fire the co-trustee and appoint a successor. In addition, the primary beneficiary could also maintain a broad special power of appointment that would allow him or her to eliminate an individual as a beneficiary altogether, which would effectively prevent interference.

Investment standards. A trust is normally subject to "the prudent person rule" that requires a trustee to invest assets carefully, at the risk of a personal claim by any beneficiary. By its terms, a trust can negate the prudent person rule and thus allow the trustee to have nearly the same investment freedom he or she would have with his or her own assets, which is really the purpose of the beneficiary-controlled trust.

Income and principal distribution. You can give the primary beneficiary the right to all income, but not require distributions – because that would bring funds back into the beneficiary's hands and partially defeat the trust's estate planning and asset protection purposes. If the beneficiary doesn't need the income, the assets should stay outside his or her taxable estate and within the trust's protection. Remember, a creditor has access to any income distributed. And the trust should provide a right to principal under the "ascertainable standard" of health, education, maintenance and support. Under that standard, trust assets are not includable in the beneficiaries' estates, yet the beneficiaries can still access the assets to meet these needs.

Investment flexibility. You may want to consider investing in assets that your beneficiaries can use. Examples include homes, artwork, jewelry and business interests.

Easter Egg Salad Sandwich

By Vicki Hayman
Nutrition and Food Safety Educator

My family always dyed dozens of hard-boiled eggs for Easter. The perfect way to use the decorated, hunted and gathered eggs was for mom to make egg salad. This is a great way to enjoy your Easter eggs, or a half-dozen hard-boiled eggs any other day of the year.

In the world of sandwiches, there are two types of people: Those who love egg salad, and those who loathe it. Too many egg salad sandwiches swim in mayo, smell sulfurous, taste bland and are served on soggy white bread. Done well, egg salad is creamy and chunky, studded with piquant bits of add-in ingredients. If you know how to properly hard-cook eggs and get the mayonnaise ratio right (less is better), the rest of the recipe is up to you, and there are plenty of ways to make it your own.

Great egg salad starts with properly cooked eggs. You want the yolk to be firm, yellow, and moist with no greenish-gray tint and sulfur smell - a sign that the egg has spent too long in hot water and most likely overcooked.

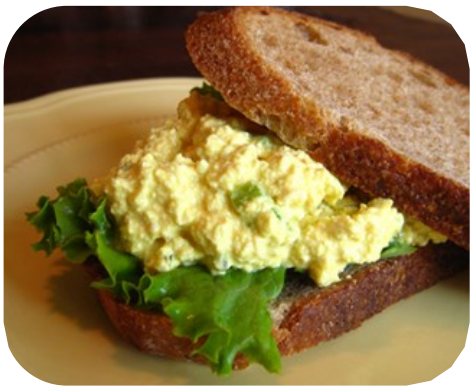
My foolproof method goes like this: Place room-temperature eggs in a medium saucepan. Add enough tap water to cover 1½ inch. When the water reaches a low boil, pull the pan off the heat, cover it and set the timer for 15 minutes (20 minutes if you want the yolk to be a little more crumbly). The time will vary due to your altitude. Drain off the hot water and shake the pan a bit to give the eggs small cracks; this helps them peel more easily. Transfer the eggs to a bowl of ice water. When the eggs are completely cool, remove them from the pan and store in the refrigerator or peel under running water and use immediately.

How you cut up your eggs is up to you – sliced, coarsely chopped, finely diced, mashed, etc. Mashing them with a fork will work, too. If you want to go lighter on fat and calories, leave out a few of the yolks.

Mayonnaise is what binds egg salad together, but you do not need much. For six large eggs, start by mixing in 3 tablespoons of mayo, gently mashing it into the cooked eggs with a fork. Add more as needed if you want a moister texture. Alternatively, skip the mayo altogether and substitute plain Greek-style yogurt.

You'll get a pretty boring egg salad with just eggs, mayo, and salt. The list of what you can add to an egg salad sandwich is only limited by your imagination and taste buds. Instead, make your egg salad come alive by mixing and matching these add-ins:

- **Binder:** First, pick your binder. Beyond mayonnaise there's aïoli (garlic mayonnaise), flavored mayonnaise, a mayonnaise/Dijon or honey mustard blend, Russian dressing, Greek yogurt, and a variety of sandwich spreads.
- **Raw Vegetables:** Add crunch and flavor with two of the following: bell pepper, carrot, celery, cucumber, minced jalapeno, onion (green, red, Spanish or sweet) shallots, and radishes.
- **Pickles:** Capers, sliced pickled vegetables, pickle relish, and their "cousin" on the relish tray - pimento stuffed olives and/or black olives.
- **Fruit:** Add apple slices, diced avocado, grapes halves, or raisins
- **Herbs:** Try a different herb each time to see which you like best: basil, chives, dill, prepared horseradish, marjoram, parsley, tarragon, and other favorites.
- **Spices:** Celery seed, Chinese mustard, curry, cumin, mustard, garlic powder, onion powder, paprika, salt and pepper add personality.
- **Add-Ons:** Crumbled bacon, diced ham, tuna, sliced almonds, poppy seeds, sunflower seeds, and cheeses.
- **Garniture:** Arugula, lettuce, spinach, tomatoes, roasted red peppers, and sundried tomatoes in olive oil.



Cent$ible Nutrition News from Sheridan County

By Sandy Koltiska
Cent$ible Nutrition Educator

The highlight for the *Cent$ible Nutrition Program* in Sheridan is the *Teaching Kitchen* at our new facility at the Watt Agriculture Building next to Sheridan College.

Since I am a new grandma, the topic of formula or breast milk has been a current topic of conversation. Breastfeeding provides beneficial nutrition to a baby and it can be more economical than purchasing formula. The average cost of infant formula for one year is about $700.00.

Women who breastfeed need to eat about 500 extra calories each day to cover the calories needed for milk production. This adds some expense, but breastfeeding still costs less than purchasing formula. The extra calories should come from nutrient-rich foods, such as non-fat milk products, whole grains, fruit and vegetables, and lean meats.

If you would like to learn more about this topic and other exciting topics about food, nutrition, and how to eat better for less, please call 307-674-2980 for more information and class dates

The *Cent$ible Nutrition Program* is offered by the University of Wyoming Extension

First class in the new kitchen!

Helping Wyoming Families Eat Better for Less

Dietary Supplements

By Kentz Willis
Nutrition and Food Safety Educator

Have you ever taken, or considered taking a dietary supplement? If so, you're not alone. Dietary supplement use has increased dramatically in the last twenty years and annual sales have grown from a reported $4 Billion in 1994 (US figures) to over $30 Billion dollars today! If you regularly take dietary supplements or are just considering it I have a few tips that will help you to make informed decisions:

Consider safety and effectiveness

This seems like pretty basic advice but sometimes good information is hard to find! Food marketing is everywhere and claims made aren't necessarily backed by scientific evidence. In addition, media outlets often misinterpret or inflate research findings. Please note: 'natural' does not mean safe. Arsenic, botulism, and cyanide are natural but most certainly not something you want to intentionally ingest!

Check your source

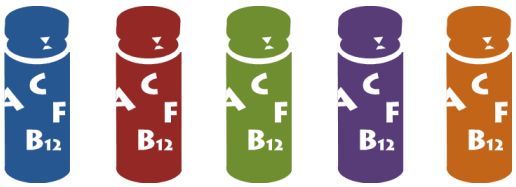
The internet is full of information – some good, some bad. Government (.gov) or educational institutions (.edu) are usually good choices for research-based information that is not biased by industry ties. Someone who is selling a product or received money (advertising or other) from a supplement company is not likely to be offering unbiased information.

Beware of bargain shopping, consider quality/purity

Poor quality control and outright fraud are pervasive in the supplement industry. Recent DNA testing of 44 different herbal supplement products found that 17% were completely authentic, 59% were adulterated with fillers (soy, wheat, rice), and 25% contained no trace of the purported main ingredient! Bodybuilding supplements, weight loss supplements, and sexual enhancement supplements are the most common types recalled due to mislabeling and safety concerns. A few 3rd party companies help to certify that products meet purity standards: USP, Consumer Lab, and NSF certifications are evidence that a product is pure. Please remember, however, that these just evaluate purity…not safety or effectiveness.

Speak with an unbiased health care professional

If the internet isn't your thing and you're looking to talk to a real person about supplements then doctors, pharmacists, and registered dietitians are usually good places to start. They should be able to help identify the risks and benefits of any supplements you are considering.



Most dietary supplements are taken with the hope or belief that they will create a positive health outcome. Unfortunately for most supplements (and supplements users!) the evidence does not support this. Though most dietary supplements are at least safe, very few have real scientific evidence to back their health claims. Time and money is much better spent getting real nutrients and real health benefits from real food.

For links to good web resources:
http://bit.ly/supplements_kw

Kentz Willis, M.S., is the University Extension Educator in Nutrition and Food Safety for Northeast Wyoming. He can be reached via email at kwillis3@uwyo.edu.

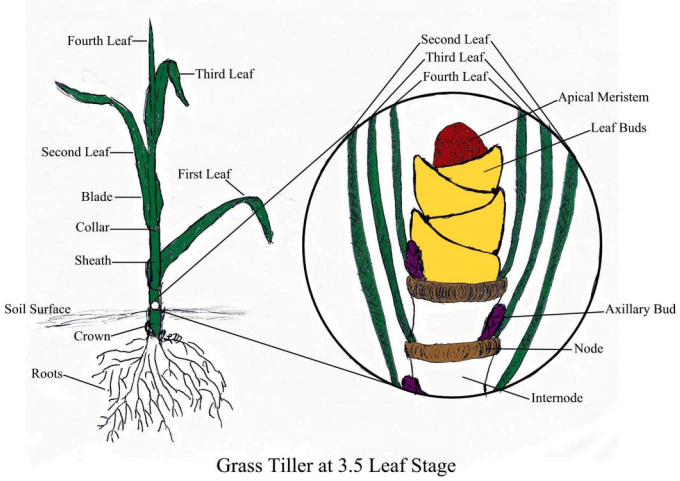
Spring Grazing—The Bad and The Good!

By Blaine Horn
Sustainable Management of Rangeland Resources Educator

Rangeland pastures are beginning to green up with the longer days and warmer temperatures. As a result livestock are seeking out and grazing these new green grass leaves. After a long winter of dry, dormant grass and hay to eat who can blame them. However, is allowing your livestock to graze these new grass shoots a good idea?

The Bad!

Perennial grasses use stored energy in the form of carbohydrates (sugars and starches) found in their roots and bases of last year's stems, and if a sod-forming species also from their rhizomes, for initial leaf and root growth in the spring. Until the plant has reached the three and a half leaf stage the new leaves are not able to furnish enough energy through photosynthesis to meet the plant's growing needs. If any portion of these leaves are removed it results in an increase demand upon already depleted carbohydrate reserves for tiller growth. As a result there can be a delay in further growth of the grass and a reduction in the total amount of herbage the grass plant will eventually produce that year.



Grass Tiller at 3.5 Leaf Stage

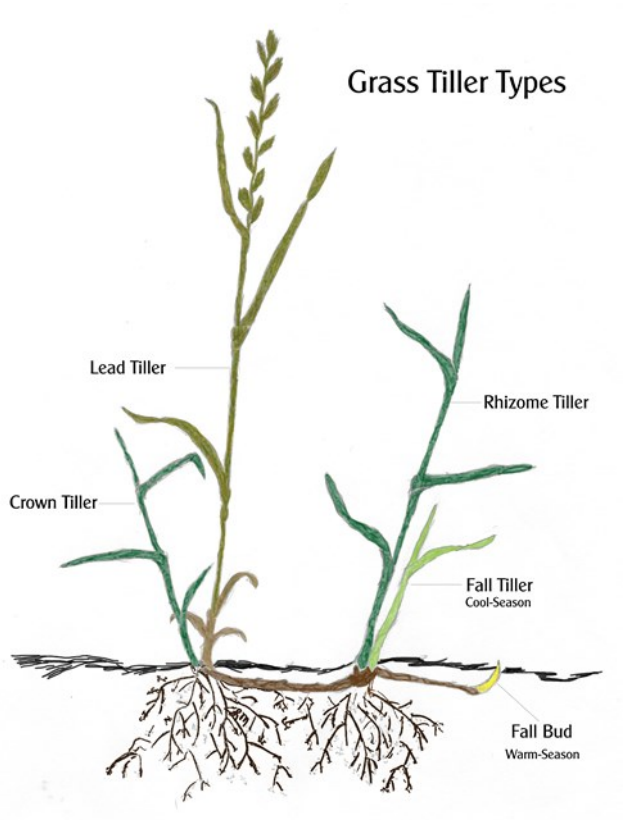
North Dakota State University range scientists found that if grazing in the western part of the state began in early May there was a 75% loss in potential forage and if it began in mid-May a 45% to 60% loss, as fourth leaf growth in cool-season grasses does not begin until early June. When the fourth leaf begins growth varies among grasses and weather conditions but for NE Wyoming it generally occurs by late May. So, should ranchers and small acreage owners not allow their animals to graze their rangeland pastures prior to late May? For ranchers to minimize operating costs it is recommended that they graze their livestock on rangeland pastures year round and supplement as needed, as the cheapest feed for their livestock is rangeland forage and not hay. Thus, what should the rancher do as a result of this conundrum? The best advice is to vary the time of year a pasture is grazed over the years to mitigate the adverse effects of mid-spring grazing.

The Good!

After the grass has surpassed the three and a half leaf stage but before it reaches the flowering or anthesis stage (early June to mid-July for cool-season grasses) removal of 25% to 33% of existing leaves by grazing can be beneficial to the plant. Partial leaf removal stimulates compensatory physiological processes that help the grass recover from defoliation, increases tillering (secondary shoots), and promotes rhizosphere (soil) biotic activity. Removal of no more than 25% of the leaf material of a lead tiller between the three and a half leaf and anthesis stages can result in 38% more secondary tillers (crown and/or rhizomatous) compared to lead tillers not subjected to defoliation. In addition, weight of the replacement leaf material can be 40% greater than that of the original leaf material removed. However, if grazing removes 50% or more leaf biomass of the lead tiller when it is between these growth stages it can suppress secondary tiller development by as much as 53% compared to that for non-defoliated lead tillers and the weight of the replacement leaf biomass can be 29% less than the weight of the removed leaf material.

Thus, moderate grazing (< 50% leaf removal) can lead to the development of secondary vegetative tillers. These secondary tillers result in an increase in herbage biomass, i.e. more forage for livestock. Granted, there has to be adequate soil moisture for growth of these secondary tillers but if late May and June precipitation is near normal the likelihood of this occurring is good.

The development and growth rate of secondary tillers decreases as the growing season progresses and by mid-July it is all but non-existent in cool-season grasses. Secondary tillers of grass plants whose lead tiller was partially grazed between late May and mid-June grow faster compared to secondary tillers of plants whose lead tiller was partially grazed between mid-June and early July. Due to this discrepancy in secondary tiller growth rates the interval between the first grazing period and the return of grazing to a pasture should be lengthened as the growing season progresses to provide more time for leaf development of the later stimulated secondary tillers. Besides controlling length of the rest period, varying the time of year a pasture is grazed, as suggested previously, would also be beneficial to the grasses.



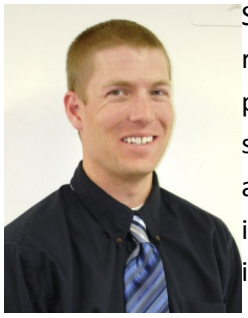
We've all heard the saying "Out of sight, out of mind". With regard to the biological activities below the soil surface (rhizosphere) this can be true for most, if not all, of us. However, it is the activities of soil micro-organisms that makes available many of the minerals plants need for growth, in particular nitrogen. Soil microbes need energy to survive and they obtain what they need from carbon compounds exuded by grass roots. Partial defoliation of grass tillers can trigger an increase in the exudation of simple carbon chains from the roots into the rhizosphere. The quantity exuded from healthy grass roots can be substantial between the three and a half leaf and anthesis growth stages as photosynthetically active leaf area is sufficient to transport carbohydrates to the roots. This increase of carbon compounds into the rhizosphere provides more energy for soil microbial growth. It is soil microbes that convert organic nitrogen into inorganic (mineral) nitrogen, the form that plants need for growth. The more soil microbes there is the more available mineral nitrogen for plant growth and recovery from defoliation. And nitrogen content of the new leaf material produced following defoliation is higher in nitrogen, i.e. crude protein.

Grazing management were livestock are in the same pastures the same time of year, year in and out is not beneficial for rangelands. This can be antagonistic to soil organism activity and the resultant nitrogen cycle and does not stimulate beneficial grass growth processes. Under such grazing management practices rhizosphere organism biomass and activity and resultant quantity of available mineral nitrogen decreases. Over time this results in decreases in grass density and herbage biomass.

Grazing management practices that inserts flexibility into the decision making process as to when livestock are in pastures and how long they are there so that only partial (25% to 33%) defoliation of the grasses occurs can result in an increase in available inorganic nitrogen by increasing soil microbe activity. Enhancement of the rangeland nitrogen cycle can result in greater productivity of herbage for livestock and wildlife.

Material from 'Biology of Defoliation by Grazing' by Llewellyn L. Manske Ph.D., Range Scientist, North Dakota State University, Dickinson Research & Extension Center

Ways to avoid poisonous plants this spring.



By Brian Sebade
Sustainable Management of Rangeland Resources Educator

Spring is finally here! Song birds have returned, green grass is starting to poke up, and yes there is still the occasional snow storm. As we start moving animals from the daily routine of feeding hay to grazing green pastures, it is important to keep in mind there are potential threats lurking in our pastures and rangelands. These threats of course are poisonous plants.

As the old saying goes, too much of anything can be a bad thing. The same goes with livestock eating plants. Wyoming is host to a wide variety of poisonous plants that include native and non-native species. Certain plants are more harmful than others and each plant affects animals differently. Livestock can consume a lot of some harmful plants with little effect while other plants may only take a little to show symptoms. This idea is the same with humans too. Some of us can not eat certain foods and some foods should not be consumed in large quantities.

Poisonous plants found growing in our pastures and rangelands can be organized and placed into groups by how they affect livestock. These categories are usually separated out by plants that cause sudden death and those that affect certain body systems. Some plants only affect the cardiac system while other might only affect the gastrointestinal tract.

Proper poisonous plant identification is critical for preventing livestock poisoning. It is also important to have some guides in place for managing pastures and rangelands containing poisonous plants. Making a plan now can save lots of headache down the road.

The first and one of the most important steps in managing livestock to prevent poisoning is ensuring your pastures and rangelands are in a high quality condition. Healthy ranges and pastures in general will provide ample desired plants for livestock to graze and not contain large numbers of poisonous or undesired plants. For most of us we would consider a healthy range or pasture to be composed of a strong, competitive, and desired plant community, minimal bare-ground, little to no erosion, few if none undesired plant species, high production, and a sustainable piece of land for years to come. When considering future sustainability, proper grazing management is critical. Practicing leave half and take half of the biomass, deferring grazing every couple of years, and switching the time of year each pasture is grazed are all key components to proper management.

If poisonous plants do happen to be on your property there are a few rules to follow to avoid issues. If problem plants are growing in certain sections of your property make use of fencing to deter animals. Electric fencing with a portable solar energizer is a great management tool that can be moved often with relatively low labor input and placed just about anywhere. If possible, completely avoiding certain pastures where poisonous plants are growing.

Electric fence is a great tool to keep livestock out of trouble.

When moving animals near or through areas with poisonous plants it is a good idea to not hurry animals. Hurrying animals may cause them to not take their time to select non-poisonous plants. There are many examples of this issue from the Great Basin of the Western United States infested with halogeton (*Halogeton glomeratus*). Herders moving sheep in or around thick stands of halogeton allow the sheep to take bites of whatever is closest. The sheep consume mainly halogeton and few other plants. The high concentration causes blockages in the kidneys of the sheep forcing the entire herd to become sick or die. The same could possibly be said for northeast Wyoming by moving cattle quickly through heavy larkspur stands. This happens rarely with larkspur, but is important to consider.

While this landscape looks like a beautiful summer rangeland, it is actually filled with a poisonous plant. The purple flower in the picture (Larkspur) is very harmful to cattle.

Along with this same idea of watching where animals are headed, it is a good idea to not place animals in pastures that have not had time to allow desired plants to reach an edible height. This problem might occur when moving livestock from a hay feeding situation to a spring pasture. Livestock may eat whatever is green and not pay as close attention to what they are eating since it is the first green plant they have seen in months. An example of this situation has occurred in the past with horses consuming field horsetail (*Equisetum arvense*) plants that are mixed in with new grass shoots in wet pastures. The horses consume the horsetail in their mad dash to eat some of the years new growth.

Providing plenty of water and minerals to livestock is another important consideration when dealing with poisonous plants. Readily accessible water is important for livestock so they are not encouraged to eat extra forage of potentially poisonous plants and help keep bodily functions working properly. Water stress will only increase the effects of poisonous plants.

Minerals are also a key component to avoid harmful plants. Livestock that are deficient in salt or other minerals might try eating poisonous plants to look for additional nutrients. Hopefully, adding mineral blocks or lick tubs will help reduce the risk of livestock experimenting with poisonous plants for needed nutrients. If livestock are chewing on bones or abnormal plants this might be a good sign they are deficient. Again, we want livestock's bodies working in the proper condition to prevent issues.

Finally, if none of the management techniques are working for you and your operation it might be a consideration to switch the type of animals in your operation. If you are having constant problems with a larkspur species killing cattle, including different livestock that are more resistant (i.e. sheep) to this plant in your management plan might be a better choice.

Poisonous plants luckily do not affect all operations and do not occur every year. I hope this article has given you some ideas for potential management techniques for dealing with poisonous plants in your area that you can not remove from your property.

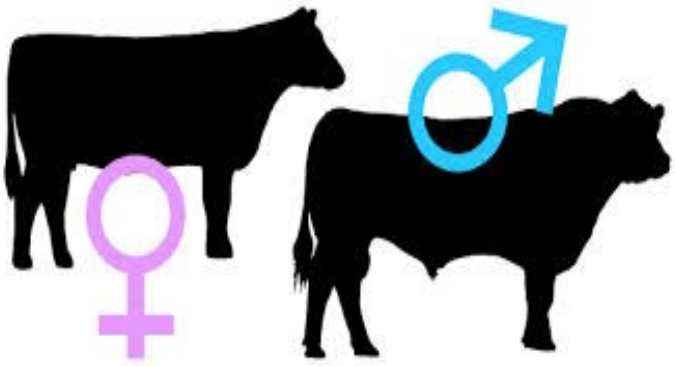
Meadow death camas (*Zigadenous venenosus)* is a glamorous wildflower found throughout Wyoming, yet is very harmful to sheep that happen to graze it early in the year.

The Use of Sexed Semen in the Beef Industry: The Next Frontier

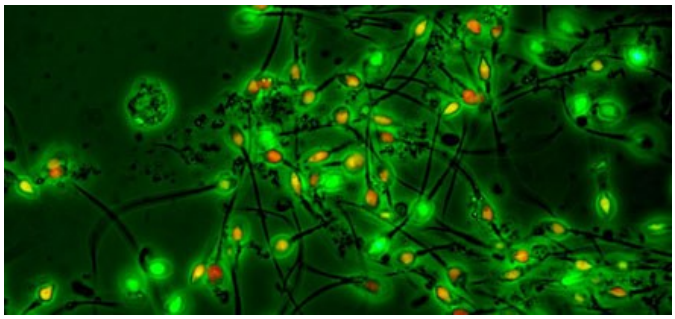
By Chance Marshall
Profitable and Sustainable Agriculture Educator

Many dairy producers across the country have adopted the use of gender selected semen in order to maximize the number of heifer calves born on their operations. In the dairy industry, the value of bull calves is minimal and thus, increased heifer progeny potentially allows for greater internal growth and/or shortened generation intervals. Because of these potential benefits, sexed semen has been commercially available for the past decade to dairy producers. Also, the increasing amount of data gathered has allowed for technological advancements and a better understanding of what to expect while using sexed semen.

However, because a reduction in artificial insemination (AI) conception rates has been consistently reported, the adoption of this new practice has been much slower in the beef industry and has only recently become commercially available to producers. Therefore, much less data is currently available to measure feasibility within the beef industry. Never the less, the potential benefits of sexed semen in the beef industry are exciting and in time, may be a viable application to a more successful operation.

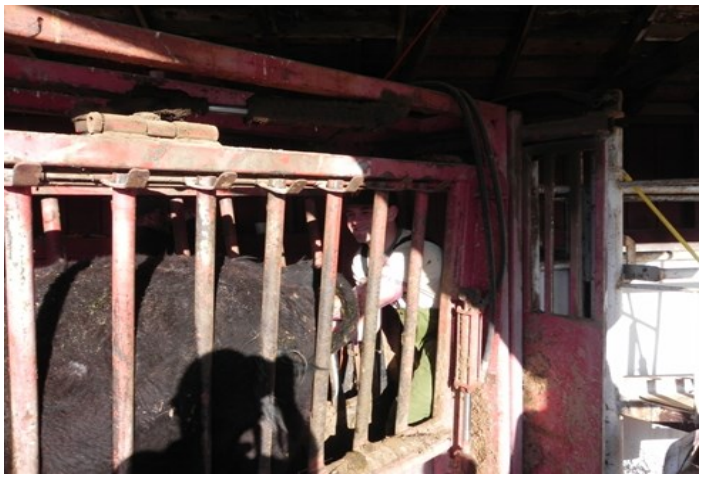


How the process works: The task of sorting sperm cells by gender is done through a long process known as flow cytometry. During this process, fluorescent dye that binds to DNA is added to the semen collection. Female X chromosomes are larger (3-4%) and contain greater amounts of DNA compared to Male Y chromosomes. Therefore, female spermatozoa will absorb a greater amount of dye causing them to fluoresce brighter than their male spermatozoa counterparts. The flow cytometer machine is then able to slowly separate individual sperm cells and send each cell through a fluorescence measuring station where a laser detects the intensity of the glow and then separates sperm cells with about 90% accuracy. Unfortunately, not all cells are properly oriented when they pass through the machine and as a result, some sperm cells are lost. Because of this added process, units of sexed semen are more expensive for the producer and contain fewer numbers of sperm cells compared to conventional semen units.



According to a compilation of data from studies during the past decade, the decreased number of sperm cells contained in units of sexed semen has led us to expect a 10% - 20% decrease in pregnancy rates of heifers or cows showing heat compared to conventional semen. These reports have also consistently showed that females who fail to show heat, should not be mass bred using a timed A.I. protocol, as the lack of response is much more severe with sexed semen.

Technology and sorting ability is improving however, and the number of beef bulls with sexed semen available has expanded substantially since the first units of sexed semen became commercially available to beef producers in 2008. Today, there are enough sires with sexed semen available to begin to satisfy the needs of seedstock producers and have commercial producers considering the feasibility of sexed semen in their operations.



Application into the beef industry: With current circumstances of recovering from a drought and decreased herd numbers, proponents of sexed semen believe that herd expansion is near and quality replacement beef heifers will continue to be demanded at record high prices. If this is the case, the increased returns on quality replacement heifers could make up for the lower pregnancy rates.

On the over hand, steer calves are known to be heavier and worth more at weaning. Perhaps it may be beneficial for some producers to use Y-sorted (male) semen. Steer calves are usually heavier at weaning and worth more per pound. Premiums may be possible for those producers that have the ability to produce complete loads of steer calves. These premiums combined with the extra pounds at weaning could compensate for the increased cost of sorted semen and decreased conception rates.

It must also be considered that first calf heifers should represent the best genetics within the herd. Therefore, it is vital to reduce coincidences of dystocia. It has long been known that generally, there is less calving difficulty associated with heifers giving birth to heifer calves compared to bull calves. This potentially means that if female semen was used on first calf heifers, dystocia issues could be greatly reduced, especially if the semen came from calving ease sires. Also, this would allow producers to take advantage of their best genetics and select only the elite cows to produce replacements. This could potentially lead to decreased generation intervals while allowing the majority of their mature cows to be bred to a terminal sire, likely adding sale value to their calf crop.

The use of sexed semen in the beef industry may still be a bit of a gamble . It should be noted that most of the information that is currently available on sexed semen in the beef industry, comes from herds that are already well adapted to artificial insemination. However, the use of sexed semen may be a viable option for beef operations that already have herds involved in artificial insemination and have closely assessed the risks involved in decreased pregnancy rates. For those producers that are willing to take the risk, increased profits and considerable genetic improvements may be on their horizon.

Understanding the Secrets of a Strong Work Ethic

By Stacy Madden
4-H/Youth Development Educator

How do you feel about your work ethic? Are you setting a positive example for the youth you interact with? 4-H works to help youth develop life skills, and a positive work ethic could be one of the most important skills to help youth acquire from an early age. A strong work ethic is like a muscle, the more you exercise it, the stronger it becomes. So, I ask you, are you working out your work ethic muscle enough and setting a good example for our youth?

Possessing and modeling a strong work ethic is one of the best ways to teach this skill to youth. According to Character Counts! framework, there are a number of ways we can model and teach youth the importance of a strong work ethic. Keep these things in mind as you begin conversations with your youth about developing a strong work ethic.

Successful people with a strong work ethic possess some of the same qualities that help them excel at even the most simple of tasks. People with a strong work ethic often:

⇒ Set realistic goals. Utilizing the SMART goal framework can help. The SMART framework directs you to think about what you want to accomplish by setting goals that are specific, measurable, attainable, realistic, and timely.

⇒ Cooperate with others. Be polite, conscientious of people's feelings, and considerate of others. While work may not always be satisfying or enjoyable, folks with a strong work ethic see the bigger picture and do what is necessary so that they can get to the work they find enjoyable. Instead of debating every issue and finding reasons why things can't get done, these folks use strong conflict resolution skills to solve problems and manage the workload. Help youth understand that conflict is a part of life, and there are healthy ways to manage conflict. Practice these skills with youth as situations arise.

⇒ Manage time wisely. If you want to continue to build your work ethic, learn how to effectively manage your time. Don't procrastinate; prioritize your time. Help your child develop time management skills by discussing priorities and helping them stick to them, for example, homework first, then watching their favorite TV show

Time Management Tips:

1. **Make time to plan. Intentionally schedule yourself time to work on projects, attend meetings, relax with family and friends, and get your work done.**
2. **Prioritize your tasks, then schedule your time accordingly!**
3. **Keep a log of your time, once you know how you spend your time, you can plan accordingly.**
4. **Discover when you are the most productive, then schedule your most important tasks during that time.**
5. **Make time for FUN, you never know what life will throw at you!**

⇒ Show dependability. If you want to show a positive work ethic, be dependable. Show up on time, get your work done by set deadlines, and keep yourself accountable for your work. Youth can begin to build this skill as they complete tasks and take pride in a job well done.

⇒ Persevere. Folks with a strong work ethic do not give-up or quit when things get hard: instead, they embrace the challenge and work harder to accomplish their goals. Make sure you are helping youth understand that their hard work is what is important. When praising them for their work, try "You are improving because you are putting in so much effort!" instead of, "You are so smart!"

⇒ Get organized! It is easier to accomplish tasks when the supplies you need are easily accessible. Adults and youth alike can get better at this by simply practicing it!

14 Habits of Highly Organized People

1. **Goal Oriented (don't sweat the small stuff)**
2. **Optimistic (can-do attitude)**
3. **Conscientious (efficient, self-motivated, well planned)**
4. **Routine (new ideas can be bothersome)**
5. **Decision Makers (don't get lost in the details)**
6. **Oriented toward the Bigger Picture (we will get there in the end)**
7. **Capture, Calendar, and Contain (find a system that works for you)**
8. **Create Checklists (write down commitments)**
9. **Don't Procrastinate (do it now attitude)**
10. **Prepare (have a plan and a backup)**
11. **Delegate (ask for help, man!)**
12. **Unitask (focus on only one thing, and get it done!)**
13. **Utilize Productive Time (know when you do your best)**
14. **De-stress (chill out and let it all go for a time)**

(taken from the Hufington Post, 3/11/2014)

⇒ Show honesty in all situations. People with a good work ethic are honest, they refrain from lying or cheating to make others look bad in the hopes of making themselves appear smarter. Instead, they take responsibility for mistakes, own up to failures and keep the lines of communication open with everyone involved. Help youth build a strong character and own their mistakes.

⇒ Don't indulge in idol or negative behaviors. Gossiping or surfing Pinterest are some of the best examples. Folks with a strong work ethic refuse to indulge in behaviors that will distract them from their work or cause a stressful working environment. Instead of gossiping about the co-worker who failed to get you the report in time, confront him privately and discuss how to avoid this behavior in the future. Help your youth develop this skill by discussing the consequences of negative behaviors and setting goals to correct them.

⇒ Value diversity! When you value everybody's contributions -- regardless of ability, age, gender or race -- it allows for more creativity and better problem solving. Teach youth to listen to others and consider a different way of approaching tasks.

A strong work ethic is one of the most important things that our youth can develop at a young age. Youth who begin to value work and fine satisfaction from a job well done are more likely to do better in school and college. In fact, students who have a strong work ethic generally do better in school than students with a high IQ and poor work ethic. Additionally, youth who have developed a strong work ethic will find that more doors will open to them in the future. As Ashton Kucher mentioned in his address at the Teen Choice awards, opportunities look a lot like hard work, if you take advantage of that, you will find success! So, let's get to work modeling these behaviors for youth so we can help them become successful!

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EXTENSION

Sheridan County Extension
3401 Coffeen Ave.-Watt Ag. Center
Sheridan, WY 82801

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Issued in furtherance of extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, director, University of Wyoming Extension, University of Wyoming, Laramie, Wyoming 82071.