

Boulder County Small Acreage Management Newsletter



Spring 2018

<http://boulder.extension.colostate.edu/natural-resources/>

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From the SAM Coordinator

The little bit of precipitation we received last night was a welcome change however; it was not enough to catch us up. The snow pack ranges from a low of 48% of normal in the southwest part of the state to 86% of normal in the North Platte basin. It will take significant precipitation in most of the state for the remainder of March, April and May to get us anywhere near normal.

https://www.wcc.nrcs.usda.gov/ftpref/states/co/snow/state/daily/co_update_snow.pdf

Start planning and thinking about dealing with a drought such as cutting back on grazing. If we do start getting precipitation, you will have done everything you could to keep your forage plants healthy. I don't want to be an alarmist but it's always better to be conservative than not. It's far easier to keep your forage plants healthy than it is to have to reseed.

Thank you,
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SAM Newsletters Online

View previous newsletters via the SAM link above.

SAM Email Listserv

If you are receiving this newsletter for the first time and are not subscribed to the Small Acreage listserv, you may request subscription by contacting the Small Acreage Coordinator sbokan@bouldercounty.org or by going to https://lists.colostate.edu/cgi-bin/mailman/listinfo/boco_small_acreage. This quarterly e-newsletter and other timely info will be distributed via this email listserv.

The listserv is not a marketplace because it is hosted on the CSU server, NO COMMERCIAL EMAILS ARE ALLOWED. DO NOT ATTEMPT TO SELL ANYTHING VIA THE LISTSERV – THANKS. Use the newsletter ad section for these purposes.

Weather Outlook

The NOAA forecasts for the next 30 and 90 days are showing that most of the state will be above normal in temperature and below average in precipitation.

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1



Coming events and workshops

We will again be offering a **Small Acreage Evening Workshop Series**. The topics and dates for the series are as follows.

May 2 – Small Acreage Assistance and Resources
May 22 – Soil

June 5 – Forage and Native Plant Species

June 19 – Grazing Management

July 19 - Weed ID and Management

Please go to the registration link for information on each session. You can sign-up for all the sessions or only attend one or several. The sessions will be from 5:30 pm to 7:30 pm.

<https://www.eventbrite.com/e/2018-small-acreage-evening-workshop-series-registration-43260184376?aff=erelexpmlt>

Weed Strategies Workshop – Wednesday

3/28/18, 9 am – 2pm, a light lunch will be provided for those who stay all day

Hosted by Boulder Valley Conservation District
Boulder County Fairgrounds – Barn A

Cost: Free

Morning Session – 9-12pm

Local weeds, emerging problems, and weed resistance

New control methods

Chemical disposal options

Afternoon Session 12-2 pm

Weeds in grass hay

Weeds in rangeland and forest land

Speakers include – CSU Crop Science Dept.,

Agfinity, Poudre Valley Coop, and Crop Quest

Contact Liz Northrup to register 720-378-5521,

enorthrup@bouldercounty.org

For private pesticide applicators, the Longmont and Boulder Valley Conservation Districts will be holding a **Pesticide Applicators Workshop**. If you need credits to keep your license valid, this half day workshop will provide all the credits you need. The workshop will be March 30th. Please see their website for details.

<http://longmontcd.org/Workshops>



I am in the process of planning other workshops and will advertise them in future newsletters or e-mails. I hope that you will take advantage of the events.

Spring Weed and Pasture Considerations

The grasses are greening up and it's very tempting to allow your livestock out to graze. However, for the health of your grass, your animals should not yet be out grazing. This is especially important with the lack of precipitation we've not received this year.

The grasses are still using stored energy in last year's stubble and the root system to grow leaves and new roots. Grazing now forces the grasses to use more of the stored energy potentially weakening the plants. Waiting until the grasses have 6 – 8" of growth and 5 leaves will preserve more of that energy and keep your grasses healthier. By the time the grasses are this tall they have enough leaf surface area to be photosynthesizing sufficiently to sustain the plants functions as well as store energy for future use.

So to keep your grasses healthy long term, resist the urge for a little while longer to let your animals out to graze. Failing to practice grazing management will over time weaken your grasses and allow invasive weeds a foothold.

If you don't have a plan to manage your weeds, you need to be developing one. Winter annual weeds are beginning to emerge. Winter annual weeds such as the mustards (blue mustard, flixweed, tumble mustard); Cheatgrass (downy or Japanese brome), redstem filaree and wild lettuce are the weeds that are out now. You need to be either planning on mowing, hand pulling or spraying. For herbicide recommendations, we need to positively identify the plant first then make the recommendation. You can either bring in a sample or send a photo in to the office for identification.

You can also be taking care of the biennial rosettes of musk and scotch thistle, diffuse and spotted knapweed, teasel, mullein and other biennials. You can be undercutting them and flipping them over or spraying them.

As stated above, the first step in weed management is to positively identify the plant. For annuals and biennials and simple perennials, keeping them from producing seed is the key management technique.



Colorado's Noxious Weed Act and Rules

Colorado's Noxious Weed list is divided up into A, B, C and the Watch list. What does each of these designations mean to landowners and how does a plant get placed on the weed list?

According to the Colorado State Weed Law a noxious weed has the following traits.

- a. Aggressively invades or is detrimental to economic crops or native plant communities.
- b. Is poisonous to livestock
- c. Is a carrier of detrimental insects, diseases or parasites
- d. The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural systems.

Noxious weeds are defined by this law and management defined in the rules.

What does it take to place a plant on the list and what determines where on the list it is placed? The Colorado Commissioner of Agriculture with advice from the state noxious weed advisory committee determines which plants need to be placed on the list and where on the list they should be placed. The committee is made up of members that represent weed management agencies, agricultural producers, general public, weed scientists, local government personnel and non-voting members from Colorado Departments of Transportation and Natural Resources. They have an evaluation system to rate the potential of a plant to do harm to the environment that aids in the determination of whether to place a plant on the state weed list and where on the list to place it. The thought process for dividing the plants into different categories is to focus private and public efforts and resources in the most cost effective and efficient manner.

The following are excerpts from the “Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act”.

The different lists are defined as:

List A species – those plants that are designated by the Department of Agriculture Commissioner for eradication. Eradication per the state weed law means reducing the reproductive success of a noxious weed species or specified noxious weed population in largely uninfested regions to zero and permanently eliminating the species or population within a specified period of time. Once all specified weed populations are eliminated or prevented from reproducing, intensive efforts continue until the existing seed bank is exhausted.

Prescribed management techniques must be applied to every population of List A noxious

weeds present in Colorado to achieve the following objectives:

- The plants of every population of List A species must be eliminated prior to seed development.
- Once all mature plants are eliminated, appropriate efforts must be made to detect and eliminate new plants arising from seed, reproductive propagule, or root stock for the duration of the seed longevity for the particular species.
- In order to ensure that seeds or other reproductive propagules are not produced or spread, any plant with flowers, seeds, or other reproductive propagules must be placed in sealed plastic bags and disposed of by:
 - high intensity burning in a controlled environment that completely destroys seed viability; removal of plant materials to a solid waste landfill which covers refuse daily with six inches of soil or alternative material; or
 - any other method approved by the Commissioner. Methods that can be used are digging, hand pulling and spraying. Biological methods can be used but must be combined with other methods to ensure eradication.

List B species – are those who have developed and implemented management plans to stop their continued spread. Management means any activity that prevents a plant from establishing, reproducing, or dispersing itself. Prescribed management techniques must be applied to every population of List B species designated for elimination by the Commissioner in a state noxious weed management plan (Rules 4.7.1-4.7.23) to achieve the following objectives:

- The plants of every population of List B species designated for elimination must be eliminated prior to seed development in the year specified.
- Any population that is discovered in areas designated for elimination subsequent to the year specified for elimination must be

eliminated prior to the development of viable seed. If the population is discovered after seed development has occurred, then efforts must be made to minimize the dispersion of seed and elimination is required prior to seed development in the following year.

- Once all plants are eliminated, appropriate efforts must be made in subsequent years to detect and eliminate new plants arising from seed, reproductive propagule, or root stock prior to seed development for the duration of the seed longevity for the particular species.
- In order to ensure that seeds or other reproductive propagules are not produced or spread, any plant with flowers, seeds, or other reproductive propagules must be placed in sealed plastic bags and disposed of by:
 - high intensity burning in a controlled environment that completely destroys seed viability;
 - removal of plant materials to a solid waste landfill which covers refuse daily with six inches of soil or alternative material; or
 - any other method approved by the Commissioner.

Each county may have additional requirements for management of List B species.

List C species – are those who have developed and implemented management plans that are not meant to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of these species.

Refer to your local weed governing agency for their requirements on managing C list weeds.

Watch list species – These plants have been determined to pose a potential threat to the agricultural productivity and environmental values of the lands of the state. The list is intended to serve advisory and educational purposes only. Its purpose is to encourage the

identification and reporting of these species to the Commissioner in order to facilitate the collection of information to assist the Commissioner in determining which species should be designated as noxious weeds. Once the noxious characteristics and distribution of plant species on the Watch List are better known, the Commissioner, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, may act to place a species on List A or List B, or may remove it from the Watch List.

References:

<https://www.colorado.gov/pacific/sites/default/files/8%20CCR%201206-2%20Website%201.pdf>

<http://www.100thmeridian.org/laws/pdfs/Colorado%20Noxious%20Weed%20Act.pdf>



The Relationship of New Spring Grass to Gas Colic and Nutritional Laminitis in the Horse

By Meg Sitarik

Every spring we are hit with a deluge of articles on the dangers of letting horses eat too much young spring grass because it may cause colic and/or laminitis in equines. Have you ever wondered why?

The equine digestive system is set up to handle a “grazing diet” a small amount of forage consumed continuously over a period of time. Horses and their kin get into trouble when too many carbohydrates, grains and young grasses, are ingested in large amounts in a short period of time. Two examples are a horse that has gotten into the grain supply and a horse turned out on fresh spring grasses for an unlimited amount of time. Each will eat large quantities in a short amount of time. This is called carbohydrate overload.

A brief overview of the horses’ digestive system will help you understand the relationship between carbohydrate overload, colic and laminitis. This overview is brief and very simplified. The horse is classified as a non-ruminant herbivore, a plant eating animal with a simple stomach. The digestive system starts at the horse’s mouth and ends at the rectum. The first half is called the foregut: mouth, esophagus, stomach and small intestine. The second half is called the hindgut: cecum, large colon, small colon and rectum. Each half digests different nutrients. The foregut utilizes enzymes to digest the majority of carbohydrates, proteins, fats, minerals and vitamins. The hindgut is like a big fermentation vat that uses microbes such as bacteria and protozoa, to digest the fibrous carbohydrates that cannot be digested by enzymes in the foregut.

At the base of esophagus (food pipe that connects mouth to stomach) are strong muscles that keep the food from traveling back towards the mouth. These muscles prevent the horse from vomiting or belching. The horses’ stomach is small relative to the size of the horse. Food travels through the foregut fairly rapidly compared to the hindgut which is much slower.

The fibrous structural parts of mature plants are digested in the hindgut. New spring grass is not the same as mature grass. New

grass is made up of more of the type of carbohydrates that are digested in the foregut.

How does this all work? What the heck does eating have to do with the feet? Sally Sobright has turned out ol’ Wiz Bang on a lush green spring pasture. Like any of his equine pals he is grazing with enthusiasm. His foregut is working hard to keep up with all the young grass being ingested. After a while the foregut is over loaded and since a horse can’t vomit to relieve the back-up or belch to relieve pressure, food that should be digested in the foregut spills into the hindgut. In the hindgut, which is like a big fermentation vat, microbes are working hard to digest the excess material. A large portion of this food is not usually digested by microbes. As the microbes are working fast and furiously they are rapidly producing large amounts of acid and gas causing changes in the balance of the microbial population causing some of the microbes to die and a change in the acid balance. Poor ol’ Wiz Bang now has gas colic. As the microbes die and acid levels change endotoxins are released into the blood stream triggering a cascade of events within the circulatory system that eventually disturb blood flow in the hoof. This leads to interruption of the blood flow that supplies the lamina, which connects the hoof to the horse. Interruption of blood flow causes inflammation and pain. Now ol’ Wiz Bang has nutritional laminitis.

I must point out that even with all the research done on laminitis the exact cause is not known. There are studies that point to a sugar called fructan, found in some grasses that in high concentrations may be a causative agent. There is also an enzymatic theory based on lamellae MMP activation. These theories agree that endotoxins do play a role in laminitis they just may not be the initial cause.

Keep in mind that what I have described above is extremely simplified.

The physiology of digestion is very complex. My goal for this article is to give you a very basic

understanding of why these things happen and perhaps pique your interest in further reading about the anatomy and physiology of the horse.

Sources:

Ann Rodiek, PhD, California State University, Fresno; Physiological Function of Equine Nutrition (Carbohydrates and Fats)

Karen Hansen, Assoc. Prof, Dept. of Animal Science, University of Wyoming; Practical Nutrition and Feeding Management.

www.extension.org/horses

Christopher Pollitt, BVSc, PhD, School of Veterinary Science and Animal Production, University of Queensland, Australia; Equine Laminitis: A Revised Pathophysiology.

www.horseshoes.com

www.safegrass.org Are You Feeding Your Horse like a Cow?

DW Freeman, PhD, OSU Extension Equine Specialist, C McAllister, DVM, Oklahoma Cooperative Extension Service; Understanding Colic in Horses.

www.osuextra.com

Notes from Equine Disease Management class
CSU Equine Management Program.

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