Boulder County Small Acreage Management Newsletter

Fall 2016

http://boulder.extension.colostate.edu/

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From the SAM Coordinator

It has been a busy summer with site visits, our clipping/grazing project, county fair and many other activities.

While scouting for a grass identification class location, we have noticed how dry we have been this year. According to precipitation information collected for a project, we have had 6 inches less precipitation this year than last year at this time. Even native grasses are showing stress from the lack of precipitation.

The lack of precipitation may cause issues with weed management. When plants, including weeds, are drought stressed, they form a thicker cuticle (skin) making it harder for the herbicide to penetrate. Make sure to use a surfactant if the herbicide label recommends the use of one.

Fall is a good time to manage perennial weeds so this issue will address some weed management issues. There are several weeds that I have seen more of this year that will be addressed.

Thank you,
Sharon Bokan
Small Acreage Coordinator
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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 boco_small_acreage@list.colostate.edu listserv, you may request subscription on the SAM website (linked in header above). This quarterly e-newsletter and other timely info will be distributed via this email listserv.
Because the list serve is hosted on the CSU server, NO COMMERCIAL EMAILS ARE ALLOWED. DO NOT ATTEMPT TO SELL ANYTHING VIA THE LISTSERV – THANK YOU. Use the newsletter ad section for these purposes.

Currently, there are 222 subscribers to the listserv

Colorado State University, U.S. Department of Agriculture and Boulder County Cooperating. Extension Programs are available to all without discrimination.

Weather Outlook

The NOAA forecasts for the next 30 and 90 days are showing that the state may be above normal in temperature. The state may see about normal precipitation. http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

Coming events and workshops

We will be working on some workshops for next year over the fall and winter. We are currently planning a 1 day small acreage workshop and possibly offering a 9 week small acreage management workshop next spring. When we have registration available, I will send out the information on these and other workshops.

New Extension website

In keeping with Colorado State University Extension's website upgrade, the Boulder County Extension website has also changed. The changes are to make the site easier to use with mobile devices and for us to make changes. We are still getting the site arranged so it will continue to change. Please check out the new site at http://boulder.extension.colostate.edu/

Seedling Tree Order Forms

The seedling tree program for 2017 that provides low cost seedlings to landowner's through the Colorado State Forest Service Nursery will begin in November 2016. If you have never ordered, then you need to provide your name and address to Nancy McIntyre at (720 378-5521 so an order form can be mailed to you. Or you can check out our website at www.longmontcd.org for an order form. Some of the species sell out quickly so the sooner you order the better your chances of getting the species you want.

Fall thistle management

First before planning any thistle management, make sure that the plants you are planning on managing are the weedy thistles. Colorado has many native thistles. Native thistles usually will not be in great numbers as they don't tend to be invasive. Larimer County Weed District has a great booklet on the thistles of Colorado at http://www.co.larimer.co.us/weeds/FinalTG2ndEd.pdf . If you're not sure if it's invasive or native, you are welcome to bring in a sample or send a photo for identification first.

Some people also confuse prickly poppy, a native, and prickly lettuce, a non-native nuisance weed with the noxious biennial thistles and Canada thistle. Prickly poppy does not need to be managed since it is a native. Prickly lettuce, an annual nuisance weed, can be easily managed by keeping it from going to seed. The same methods used for the biennial and perennial noxious thistles can also be used for prickly lettuce.

Scotch thistle

If you do have one of the invasive biennial thistles (bull, musk or scotch) or perennial Canada thistle, fall is a great time to manage them. With the biennial thistles, you can pull or dig/undercut the plants. Try to get the plants in

the rosette stage but if you miss them you can dig out the plant or cut off the flower head of the more mature plants. They only spread by seed so the key is keeping them from going to seed however you do it.

If you happen to have the perennial, Canada thistle, it spreads by both seeds and by the extensive root system. Trying to dig the Canada thistle may be a losing battle. You need to get the entire root system. Otherwise, the plant will just grow again from the root pieces you left. Trying to keep it mowed so it doesn't have any leaf surface to photosynthesize can help stress the plant. If you are very diligent, and keep cutting off the vegetation you might be able to manage it.

When it comes to herbicides, there are several you can use that will work on both the biennial and perennial thistles. If you want to use one of the organic herbicides (those containing acetic acid, clove oil or citrus oils), they are best used on small plants. If you miss the small plants, it may take several applications of an organic herbicide to work on larger plants. For synthetic herbicide, you can use any of these broadleaf herbicides 2, 4-D, dicamba, aminopyralid (Milestone), clopyralid (Transline), chlorsulfuron (Telar) or non-selective herbicide glyphosate (Roundup).

Whether you use an organic or synthetic herbicide, make sure that you **read and follow the label instructions**. There are dyes you can add to the spray tank so that you can tell which plants you have sprayed.

Take advantage of our nice fall weather to start managing your thistles.

Other weeds of 2016

Each year depending on the growing conditions, I see certain weeds in higher abundance than in other years. Here are the weeds that I'm seeing in greater numbers this year.

Poison and water hemlock – since 2013 and the flood I'm seeing more poison and western water hemlock. Both of these plants are found in wet/riparian areas such as along creeks, streams and ditches. Water hemlock is a native plant while poison hemlock is an introduced plant from Europe. Both are poisonous to humans and livestock due to alkaloids in the plants.

Poison hemlock is a biennial so you need to keep it from going to seed to manage it. You can dig/undercut the rosette or cut off the seed heads. When handling the plant it is a good idea to wear long pants, long sleeve shirt, closed toed shoes, eye protection and rubber gloves. Dispose of the plants in the trash. You can spray small rosettes with an organic herbicide or 2, 4-D or chlorsulfuron (Telar) or metsulfuron (Escort) or glyphosate (Roundup).

Western water hemlock is either a biennial or perennial and can spread by both seed and the root system. You can dig out the plants making sure to get all of the root system. As with the poison hemlock make sure that you wear protective clothing. Dispose of the plants in the trash. You can try using an organic herbicide on small plants but this probably won't be effective on larger plants. For synthetic herbicides, you can use 2, 4-D or glyphosate (Roundup).

With both of these plants, spraying may make them either more poisonous or more palatable to animals so it is best to keep animals excluded from the area until the plants are completely dead and remove the dead foliage.

Curly dock, a relative of rhubarb, appears to be on the rise. It is a perennial that only spreads by seed. You should keep it from going to seed by cutting off and disposing of the seed head or you can try to dig out the plants. You can try continually mowing or cutting the foliage to limit photosynthesis and use up root energy to kill the plant but this will take time. Organic herbicides might work on small plants but will require multiple applications to kill larger plants. Synthetic herbicides you can use are 2, 4-D and dicamba, aminopyralid (Milestone), clopyralid (Transline), glyphosate (Roundup), chlorsulfuron (Telar) or metsulfuron (Escort).

Horseweed has been in abundance the last couple of years. It is an annual so you need to keep it from going to seed to start eliminating it. You can try mowing but make sure that you mow high so you have space to come back and mow a second time. You can also hand pull the plants. Organic herbicides might work on small plants. Synthetic herbicides such as 2, 4-D and dicamba, aminopyralid (Milestone), chlorsulfuron (Telar), glyphosate (Roundup) or metsulfuron (Escort) will all work.

One other weed that I have seen more of is jointed goatgrass. It is a weedy noxious grass like cheatgrass. They are both winter annual grasses. Jointed goatgrass is a serious contaminant in wheat fields. The seed is similar size to wheat seeds and lowers the value of wheat. Because wheat and jointed goatgrass are related, it is tough to distinguish between the seedlings. If you pull up the goatgrass seedling, you will find the seed hull still attached. The initial jointed goatgrass seedling, coleoptile, is narrower and can be crimson or purple in color as compared to a wheat seedling which has greener and wider coleoptile. As the jointed goatgrass seedlings grow they are also darker green and have evenly spaced hairs at right angles to the leaf margins especially around the collar and stem. The plants tend to grow along the ground until the plant is ready to flower and produce seed. The tillers/stems then begin to grow vertically.

Steve Dewey, Utah State University, Bugwood.org;

The Jointed goatgrass seedling continues to develop in a similar manner to winter wheat seedlings. Jointed goatgrass usually grows to a height of 18 – 25 inches. The stem elongates in a similar appearance to straw. The individual spikelets may contain up to three seeds. It normally ripens before wheat and the spikelets shatter spreading the seed prior to harvest. Jointed goatgrass not only lowers the value of the wheat but it also competes with the wheat for water and nutrients.

Since wheat and jointed goatgrass are both in the grass family, there aren't any herbicides that are selective enough to kill the goatgrass without killing the wheat. Several methods can be used to manage the goatgrass. A crop rotation of 3 to 5 years allows the use of herbicides that can kill the goatgrass. Delay of wheat planting can allow the goatgrass to germinate and be treated prior to the wheat. This method must be weighed against the possibility of planting the wheat too late and the risk of freeze damage to the wheat seedlings. Taller wheat varieties can compete better with the goatgrass. Narrower row spacing or a paired row spacing also increases crop competitiveness.

Herbicides that can be used are glyphosate (Roundup – non-selective herbicide so use very carefully in areas with desirable plants) or imazypic (Panoramic). With any of these herbicides, thoroughly read the label for timing and any soil residual that may prevent you from planting desirable seed (i.e. Panoramic). **Always read and follow the label!**

Kelly Uhing, Colorado Department ofAgriculture,

Fall grazing management

Much like bears getting ready to hibernate, your pasture grasses spend the fall getting ready to go dormant for the winter. The grass is trying to

store as much energy prior to going dormant so that it can survive the winter. Allowing livestock to graze at this time reduces the leaf surface area for the grass to produce energy. It is best to not allow grazing until the grass is dormant. Depending on our fall weather, the animals should be kept out of the pasture for from September until the grass is dormant which may be November.

Once the grasses are dormant, you can allow some grazing. You still need to maintain stubble of at least 4" and not allow your livestock to graze it down lower. Your grasses are storing energy that they will need next spring in the lower 4" of stubble. Please read the following article on a project we've had going for 2 years to demonstrate the damage you can do to your grasses and soil by over grazing.

Pasture Management Project Update

By Sylvia Hickenlooper, Soil Conservationist, USDA NRCS

The pasture plots were set up as demonstration purposes in 2015. There are a total of four plots located in Boulder, Larimer, and Jefferson counties. Every other week or monthly the plots were clipped and harvested at 1", 2", and 4" stubble heights. First we looked just at the production; how much forage did we harvest off of those plots. The results were not eye-catching when looking at it from a paper perspective, but in the field it was a whole other story. There appeared to be a story of diminishing returns unfolding right before our eyes. Sure the 1" was producing, but for how long could the plots look like they do and the forage keep producing? It prompted us to try it again for another year, but to add to our production data collection and look at soil health.

2016 was the second year of collecting data and again the results just were not showing a lot in regards to production. Examining just the harvest yields would indicate that you can have similar production among the sites regardless of the stubble height.

However, what started to take place below the ground was nothing short of amazing and should really start grabbing people's attention. Let's just look at temperature. On average the 1" plots exceeded over a 20 degree difference from the surface in comparison with 2" below the surface temperatures. That means in the 1" plot there was substantially more evapotranspiration, essentially less water available for the plant as it is being evaporated into the atmosphere. But that wasn't all we found. The change in the color of the soil was noted as well. There was a visible increase in organic matter, thus changing the soil color from brown to almost black in just a timeframe of four months. It has been discovered that an increase in organic matter by just 1% multiplies the ability of the soil to hold an additional 20,000 gallons of water! That is huge in this arid region we call home in Colorado. However, that wasn't all we found, the structure of the soil began to change from a dense compacted structure in the 1" to a crumbly soil structure in the 4". Again, let me remind you this all took place in less than four months by simply changing the height and frequency of harvesting heights on grasses.

So what difference does the structure of the soil have on any of this? A LOT. Think of a parking lot versus a well prepared garden bed. Which would grow healthier food? Obvious answer and it is exactly the same with the pasture grasses. The deeper those plants can get their roots into the soil the more they are able to mine for available water and nutrients. Essentially they are doing the work for you resulting in less inputs to produce more forage.

As expected we saw an increase in measured sugars of the forage in the 4" versus the 1" plots, indicating higher quality feed.
If you are thinking this sounds interesting, This Pasture Management Project is a collaborative project among Colorado State University Extension in Boulder, and Larimer counties, Natural Resource Conservation Service, and the Longmont and Boulder Valley Conservation Districts.

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sbokan@bouldercounty.org

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