



Summer 2013

Issue 18

www.ext.colostate.edu/sam

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No-Till Grass Drill

By Judy Garrigues, Dolores Conservation District

A no-till seed drill can help increase your bottom line while helping to keep fertile topsoil in place. It's a win-win proposition! Using a normal grass drill, you have to prepare the soil by tilling and disking prior to planting the seed with a seed drill. But a no-till seed drill does three operations in one pass, saving fuel, reducing compaction, and saving you time on the tractor.

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Cheatgrass Increases Fire Risk

Now that cheatgrass has reached reproductive maturity and has completed its annual life cycle, the litter left behind is dry and very flammable. In addition, growth of warm season broadleaf weeds and grasses among and around cheatgrass plants has begun to peak, which creates high fire fuel loads and an increased risk for the spread of fire when ignited.

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No-Till Grass Drill continued from page 1

Here's how a no-till drill works:

1. A blade for cutting (coulters) through residue or sod is the first part of the operation;
2. Opener discs guide the seed delivered by the seed hoses into the trough created by the coulters;
3. Press wheels finish the job by covering and packing the soil above the seed.

One of the greatest benefits of using a no-till drill is the ability to leave residue on top of the soil. The residues can then be incorporated into the soil slowly by the many microorganisms that create healthy, aggregated soil. The micro-organisms help make nutrients available to plant roots, and the residue helps provide the habitat both the micro and macro-organisms (i.e. earthworms) need to do their work. The residues also help shade the seedlings you have planted, hold moisture, prevent erosion from both water and wind, and help compete with weeds. Speaking of weeds, since you have only disturbed the row where seeds have been planted, you have not created a weed bed from your entire field by disturbing large areas and allowing dormant weed seeds to take hold.



Great Plains no-till grass drill

Now take a look at the bottom line. When broadcasting seed, it is recommended to double the application rate of the seed since germination is significantly less successful than it would be if using a drill seeder. Overall, when using a no-till seeder, costs may be decreased due to the need for less fertilizer, fewer pesticides, and less diesel to run the many passes over the field that were previously needed. If rotational cropping is the practice, killing the previous crop with chemical or mechanical methods must be figured in to the cost/profit equation.

Your local conservation district is committed to helping landowners care for the land that they farm. As a small acreage landowner, you are working hard to be a good steward of the land and reduce input costs. However, finding the right equipment for this size of the project without having to purchase it is often difficult, and the cost can be prohibitive. Fortunately, several conservation districts are able to offer a no-till seed drill to those needing to seed smaller parcels. Since 2012, the Dolores Conservation District (CD) has had a Great Plains no-till drill available. This seeder has been used to seed over 425 acres with pasture mixes and/or cover crop mixes.

That's 425 acres of topsoil that is more likely to stay in place when the wind blows or water washes over the field; 425 acres of competition for weeds; and on many of those acres, additional nutrients are being added to the soil through the use of cover crops and grazing. This particular no-till drill is available for rent and more information can be found on the Dolores CD website at www.dolorescd.org or by calling 970-565-9045 X118. In other areas, please be sure to contact your local conservation district to find out how you can get a no-till seed drill for your upcoming seeding project. To find your local conservation district, visit the Colorado Association of Conservation Districts at <http://coloradoacd.org/Conservation-Districts>

Cheatgrass Increases Fire Risk continued from page 1

Cheatgrass, a weedy introduced annual plant, has capitalized on spring moisture while perennial grasses have been much slower to recover following the drought affects from 2012. Visual surveys across rangelands and roadsides this year show that cheatgrass is approximately two times more abundant in 2013, especially in Northeast Colorado.

Landowners, ranchers, farmers, and homeowners should take precautions.

- Keep vehicles on maintained roadways and off of cheatgrass.
- Adhere to all local fire restrictions and bans.
- Take precautions during hay-baling and grain harvesting operations to prevent ignition of dry fuels.
- Dispose of cigarette butts and matches properly.
- Use and maintain approved spark arrestors on all power equipment.
- Reduce cheatgrass fuels by mowing. Bag the seed if possible.
- Clear cheatgrass within a 30-foot perimeter of buildings, equipment, and other structures.
- Avoid rocks and metal when mowing cheatgrass, since sparks generated could start wildfires.
- Avoid welding on cheatgrass sites. If welding, clear the area of fuels and monitor sparks when using welding equipment. Have a fire extinguisher available.
- Instruct children to never play with fire or fireworks.

Simply mowing cheatgrass will not eliminate the problem, since cheatgrass is likely to return the following year. For more information on cheatgrass, the fire hazard cheatgrass may pose, and the precautions that can be taken to reduce the risk of fire, please visit the following link for CSU Extension fact sheet No. 6.310. <http://www.ext.colostate.edu/pubs/natres/06310.html>

Small Acreage Irrigation Guide

The Small Acreage Irrigation Guide is a new booklet produced by CSU Extension and USDA-NRCS. It provides information about Colorado water rights and irrigation for small acreage landowners. While the content is largely directed towards those engaged or interested in some form of agricultural production, it may also be useful for those simply interested in maintaining their yard and garden plot.

This guide addresses many important questions about water rights and water use for landowners and for those thinking of purchasing land. Crop water needs and irrigation scheduling are discussed, and examples are provided to help the user with common calculations necessary for irrigation scheduling and ordering the necessary amount of water to meet crop needs. In addition, information is provided on irrigation systems that are appropriate for 5 acres or less, including pumps, pipelines, and water application options. To download the free Small Acreage Irrigation Guide, go to www.ext.colostate.edu/sam/water.html



How to Read a Pesticide Label

By Kim Wolinski, SAM Volunteer

Pesticides can serve a useful purpose around the home and garden by reducing some of the problems we face from pests. Pesticides include insect killers (insecticides), weed killers (herbicides), and fungus killers (fungicides).

If not used according to label specifications, humans, pets and water supplies can be harmed. This can happen even when pesticides are used according to the label.

Sounds simple, but to head off problems with pesticide use, the most valuable time spent in pest control is the time you take to read the label. Before you buy a pesticide, read the label to determine:

- whether it is the right pesticide for the job;
- whether the pesticide can be used safely under your application conditions;
- whether there are any restrictions on the pesticide;
- how much pesticide you should buy for the area you are treating and when to apply the pesticide.

Pesticide labels are the legal document located on the pesticide container that provides information concerning the safe and effective use of the pesticide.

Here are the ABC's of following pesticide labels for the best outcomes:

1. The label is the law.

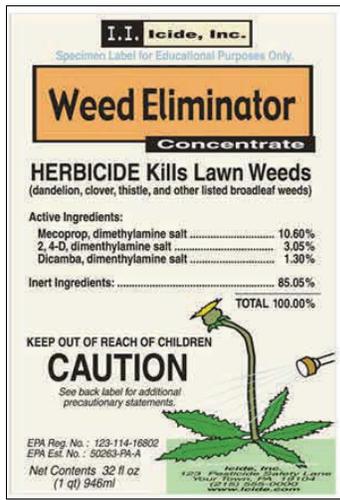
This is a huge deal! The user of any pesticide is liable for all aspects of handling the product,

including but not limited to mixing, loading, application, spill control, and disposal of a pesticide or its container.

2. Read the label thoroughly. It includes the following items:

FIRST AID INSTRUCTIONS - Before you mix and apply a pesticide, read the label to determine:

- what protective clothing to use and safety measures to follow
- what the chemical can be mixed with
- how much pesticide to mix
- the mixing process
- how long you should wait after application to reenter the area, harvest the crop, or plant another crop.



EPA REGISTRATION NUMBER - You can search the Pesticide Product Label System (PPLS) using the EPA Pesticide Product Registration Number at <http://oaspub.epa.gov/pestlabl/ppls.home>

NAME and ADDRESS OF MANUFACTURER

SIGNAL WORDS and LEVELS OF TOXICITY - These indicate the toxicity and/or hazards associated with the use of the pesticide. The label indicates the level of toxicity with one of three signal words: DANGER, WARNING, or CAUTION. The precautionary statement describes the hazards to the applicator, children, domestic animals, wildlife, and the environment. If protective clothing and equipment are necessary, the precautionary statements will tell you.

The label must list the active ingredient—the ingredient that actually kills or inhibits the pest. Inert ingredients, such as carriers or solvents, do not have to be specified, but their concentrations must be listed.

Material Safety Data Sheet or MSDS is a technical bulletin that supplements information found on the product label. Visit www.cdms.net/LabelsMsds/LMDefault.aspx

This website allows you to search for your specific herbicide and read more details about use, hazards, etc. Go here first if you have any questions about a product.

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Pesticide Labels continued from page 4

USES INCONSISTENT WITH LABELING - It is a violation of federal law to use any pesticide in a manner inconsistent with its labeling, with the following four exemptions:

1. Application at a rate of frequency less than specified on the label.
2. Application on a target species not specified on the label as long as application is to the site or use specified on the label, unless the label specifically prohibits use on that specific pest.
3. Employing any method of application not prohibited on the label.
4. Mixing with a fertilizer, as long as such a mixture is not prohibited on the labeling.

DO NOT DO ANY OF THE FOLLOWING— apply pesticides at a higher rate than is on the label; remove the label; put pesticides in other containers, or other liquids in pesticide containers; store pesticides near children and/or pets.

STORING and DISPOSAL - Before you store or dispose of a pesticide, read the label to determine:

- where and how to store the pesticide
- how to clean and dispose of the chemical container
- how to dispose of surplus pesticide.

PESTICIDE ACRONYMS

GUP - General Use Pesticide. Products available to the general public.

PPE - Personal Protective Equipment. Listed under the “Hazards to Humans” section on the label.

RUP - Restricted Use Pesticide. Restricts the purchase of a product, and its uses, to a Certified Pesticide Applicator (CPA), or to anyone under the direct supervision of a CPA.

More information on pesticide product labels

EPA pesticide label page at

www.epa.gov/pesticides/label/

Upcoming Small Acreage Webinars

Firewise Landscaping: Fire-Resistant Plants

August 15, 2013 (noon – 1 pm)

Considerations for Raising Chickens in the Mountains

August 28, 2013 (noon – 1 pm)

Herbicide Carry Over and Fall Garden Tips

September 4, 2013 (noon – 1 pm)

Brush Treatments for Wildlife Considerations

September 10, 2013 (noon – 1 pm)

Ditches- more than just water conveyance systems

September 18, 2013 (noon—1 pm)

Removal and Treatment Options for Tamarisk Invasions

September 19, 2013 (noon – 1 pm)

To register for these free webinars, visit

www.ext.colostate.edu/sam/events.html#firewise



Tamarisk or salt cedar is an invasive non-native plant that is invading Colorado’s riparian areas.

Thistles

By Megan Lowery, West Greeley Conservation District

Several non-native species of thistle which threaten agriculture and natural areas have created a bad name for all thistle species including native species that provide value for pollinators, seed feeders, wildlife browsers, and native plant diversity. Because people assume all thistles are bad, the good, native species are often pulled, mowed, or sprayed with herbicides indiscriminately. In Colorado, there are 15 native and 5 non-native thistle species. The native species include Flodman's thistle, Platte or prairie thistle, wavyleaf thistle, and yellowspine thistle; while the non-native species include bull thistle, Canada thistle, musk or nodding thistle, and Scotch thistle.

Flodman's thistle (*Cirsium flodmanii*) is a rare plant found only in eastern Colorado. It is found in moist meadows, pastures, and disturbed areas from 4,800-8,500 feet in elevation. The leaves are highly lobed with wavy margins and with a grayish coloring on the underside. Flowers are deep purple in color. Plants have a solitary flowering head. This species is easily confused with Canada thistle.

Platte or prairie thistle (*Cirsium canescens*) is found statewide on sandy or gravelly soils in upland prairies from 3,500-9,000 feet in elevation. This species is biennial, meaning the first year's growth is a rosette and bolts and flowers the following season. Leaves are blue-green in color and are long-decurrent on the stem, meaning the leaves continue down the stem beyond the point of attachment. Phyllaries (bracts are the base of the flower) are tipped with a yellow, reflexed spine (bending away from the flowering head). Flowers are yellowish-white or rarely pale lavender or pink.



Flodman's thistle

Wavyleaf thistle (*Cirsium undulatum*) is found statewide on sandy, gravelly soils of canyon bottoms, foothills, and sagebrush communities from 3,500-9,000 feet in elevation. This species can be either a biennial or a short-lived perennial. Leaves are grayish in color, highly lobed with wavy margins, and are not long-decurrent on the stem. Flowers are purple or cream in color with narrow phyllaries with reflexed spines. This species is confused with yellowspine thistle, but has a solitary flowering head.

Yellowspine thistle (*Cirsium ochrocentrum*) is found on the eastern plains and Middle Park of Colorado at dry locations of prairies and the piedmont valley from 3,500-9,000 feet in elevation. This species can be either a biennial or a short-lived perennial.

Leaves are deeply lobed with prominent yellow spines and have a long-decurrent leaf base on the stem. Individual stems are densely leafy. Flowers are reddish purple, purple, pink, or rarely white. Phyllaries have stout, yellow, reflexed spine tips that darken as they mature. Yellowspine is often confused with wavyleaf thistle, but forms clumps with multiple stems.

Bull thistle (*Cirsium vulgare*) is a noxious (Colorado Noxious Weed List B) weed found statewide in wet, shaded areas. It is a large biennial, growing up to six feet in height during the second season's growth. Leaves are clasping, deeply lobed, spiny, hairy, and decurrent. Flowers are purple and phyllaries are cobwebby-pubescent (hairy).

Canada thistle (*Cirsium arvense*) is a noxious (Colorado Noxious Weed List B) weed found statewide. It is a perennial which reproduces via seed and rhizomes (underground horizontal roots). Leaves have shallow lobes, wavy margins, and

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Thistles continued from page 6

cobwebby hair. Flowers are pink, purple, or rarely white with appressed phyllaries (lying flat against the flowering head). Canada thistle can reach heights of up to six feet tall.

Musk or nodding thistle (*Carduus nutans*) is a noxious weed (Colorado Noxious Weed List B) found statewide. It is a biennial that can reach heights of up to eight feet tall. Leaves are somewhat lobed, wavy, margins outlined in white prominent, and a light green mid-vein with long-decurrent base. Flowers are purplish with one flowering head per stem and subtended by broad, spreading, pinecone-line bracts.

Scotch thistle (*Onopordum acanthium*) is a noxious weed (Colorado Noxious Weed List B) found statewide in disturbed sites and roadsides. It is an extremely spiny biennial that can reach heights up to 12 feet tall. It can form dense stands too thick for livestock or wildlife to walk through. Leaves, particularly in the rosette stage, are covered with white hair giving them a blue-gray appearance. Flowers are large and purple with cobwebby, reflexed phyllaries which appear spine-like.

Non-Native Thistle Control

All four non-native species are found on the Colorado Noxious Weed List B. Species on this list have been identified as requiring a management plan to stop their continued spread with local governments

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CAN YOU ID THESE THISTLES?

⇒ Match the name with the correct photo.

Scotch thistle—noxious
Bull thistle—noxious
Platte or Prairie thistle—native
Wavyleaf thistle—native

Answers are on page 8.



Thistles continued from page 7

and citizens encouraged to manage these species.

Bull, musk, and Scotch thistles are biennial, taprooted plants, reproducing prolifically from seed. The key to managing these species is to prevent seed production and eventually the seed bank in the soil will be depleted. Seed viability is approximately 10 years which requires long term management. Once flowering has begun, plants or seed heads should be bagged and disposed of to prevent seed dispersal.

Canada thistle is a perennial species often requiring several seasons of management for effective control. Due to reproduction via rhizomes, mechanical treatments (hand pulling, shallow tillage, and mowing) are often ineffective or even counterproductive unless the outbreak is very small or caught very quickly. Several seasons of herbicide application or long term biological control (insect agents or grazing) will weaken the plant and allow for effective management.

Other species are often mistaken for thistles, particularly prickly lettuce (*Lactuca serriola*) and prickly poppy (*Argemone polyanthemos*). These species have wavy, spiny leaves similar in appearance to many thistles. Before controlling any species, it is important to properly identify the plant.

Canada thistle control, CSU Factsheet

www.ext.colostate.edu/pubs/natres/03108.html

Musk thistle control, CSU Factsheet,

www.ext.colostate.edu/pubs/natres/03102.html

CAN YOU ID THESE THISTLES?

answers

B: Scotch thistle—noxious

D: Bull thistle—noxious

C: Platte or Prairie thistle—native

A: Wavyleaf thistle—native

Dragonfly Pond Watch

Become a Pond Watch monitor!

Dragonfly Pond Watch is a volunteer-based program of the Migratory Dragonfly Partnership (MDP), an international partnership chaired and coordinated by the Xerces Society. Pond Watch investigates the annual movements of two major migratory dragonfly species in North America: common green darner (*Anax junius*) and black saddlebags (*Tramea lacertata*). No prior experience with dragonflies is needed to participate!

By visiting the same wetland or pond site on a regular basis, participants will be able to note the arrival of migrant dragonflies moving south in the fall or north in the spring, as well as to record when the first resident adults of these species emerge in the spring.



Common Green Darner
(Anax junius)

Why monitor ponds?

Collecting seasonal information at local ponds will increase our knowledge of the timing and location of dragonfly migration across North America, and expand our understanding of the relationship between migrant and resident populations within the same species.

How can I get involved?

Please visit the Pond Watch homepage for information on how to register a pond of your choice and for detailed monitoring protocol instructions.

www.xerces.org/dragonfly-migration/pondwatch/

To learn more about Xerces' other citizen science opportunities, visit www.xerces.org/citizen-science/



Black saddlebags (*Tramea lacerate*)

Colorado Master Steward Program

The Colorado Master Steward program is an 8-week short course being offered in Garfield County running Tuesday evenings (6-8 pm) from Sept. 10 to Oct. 29, 2013. We will help you to become more knowledgeable and skilled land stewards.

Topics include:

- ◆ Resource inventory and focusing goals on your property
- ◆ Soil management
- ◆ Water quality, septic systems and household drinking water
- ◆ Streams and ponds
- ◆ Grasses and pasture management
- ◆ Managing woodlands and forests
- ◆ Livestock care
- ◆ Dealing with wildlife
- ◆ Developing a whole-farm plan

You will learn from local experts and gain know-how that will enable you to build a customized property management plan to implement on your land. This will benefit your rural property because stewardship promotes conservation, improves yields, amplifies savings in input costs, increases biodiversity, and allows for the development of diverse opportunities on your land.

For more info and to register for the class, please visit www.ext.colostate.edu/sam/ms/



**Upcoming Small Acreage
Events**

For a list of upcoming events in your area
visit CSU Extension Small Acreage
Management website
www.ext.colostate.edu/sam/



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