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Rainwater Collection Bill

Irene Shonle, CSU Extension in Gilpin County

On April 1, 2016, Colorado passed a controversial legalization bill. No, not THAT kind of legalization—we did that a couple of years ago. No, this bill finally made it legal for us to do what every other state allows – or even encourages: collect rainwater off the roof!

This is a game changer for Colorado, and especially for people who are on household-use only wells (who previously had NO outdoor water rights). Rainwater is free and collecting rain could reduce storm water run-off issues.



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Rainwater Collection from page 1

The bill was signed into law May 12, by Governor John Hickenlooper, who has been a supporter. The bill will take effect August 10, 2016.

Here is the legalese of House Bill 16-1005:

PRECIPITATION FROM A ROOFTOP MAY BE COLLECTED IF:

- a) NO MORE THAN TWO RAIN BARRELS WITH A COMBINED STORAGE CAPACITY OF ONE HUNDRED TEN GALLONS OR LESS ARE UTILIZED;
- (b) PRECIPITATION IS COLLECTED FROM THE ROOFTOP OF A BUILDING THAT IS USED PRIMARILY AS A SINGLE-FAMILY RESIDENCE OR A MULTI-FAMILY RESIDENCE WITH FOUR OR FEWER UNITS;
- (c) THE COLLECTED PRECIPITATION IS USED FOR OUTDOOR PURPOSES INCLUDING IRRIGATION OF LAWNS AND GARDENS; AND d) THE COLLECTED PRECIPITATION IS USED ON THE RESIDENTIAL PROPERTY ON WHICH THE PRECIPITATION IS COLLECTED.

2) A PERSON SHALL NOT USE PRECIPITATION COLLECTED UNDER THIS ARTICLE FOR DRINKING WATER OR IN-



DOOR HOUSEHOLD PURPOSES.

3) THE STATE ENGINEER MAY CURTAIL RAIN BARREL USAGE PURSUANT TO SECTION 37-92-502 (2) (a).

I'm sure we will be seeing a plethora of rain barrels in our garden centers in August – or even sooner. These have been conspicuously absent until now.

It is surprising how little rain it takes to fill those barrels – a half inch of rain collected from just a 200 sq. ft. section of roof will more than fill a rain barrel – and if your roof is bigger than that (most roof sections are), even less rain will do the job!

Some things to consider for your new rain barrel:

- Place your barrel on a hard or compacted surface, near a garden area you intend to water. Raise the barrel so you can get a watering can underneath the spigot at the bottom. Because residents can collect up to 110 gallons, and most barrels are 55 gallons, you may want to look into connectors for the barrels, unless you will be collecting from two separate downspouts.
- Make sure it has a lid to keep out critters, mosquitoes and children. Opaque barrels will reduce algae growth.
- Use of rainwater on edible gardens can be tricky. Everything from bird droppings to pollution to leachate from shingles can potentially cause problems. These can be minimized by not collecting the first gallons of water after a dry spell (using a first-flush diverter), and only collecting off asphalt shingle or metal roofs (wood shake shingles can cause problems). Only use food-grade quality rain barrels.

Look for future programming from CSU Extension on water quality issues with collecting rainwater, and enjoy your rainwater!

For more information:

CSU Extension Rainwater Collection Factsheet <http://extension.colostate.edu/topic-areas/natural-resources/rainwater-collection-colorado-6-707/>

Lower Population of Grasshoppers Predicted

By Assefa Gebre-Amlak and Frank Peairs, Colorado State University Extension

According to the 2015 USDA APHIS adult grasshopper counts, there were low to moderate populations of grasshoppers in north eastern Colorado (Golden Plains Area) last year with the exception of a few spots with higher risk in some south eastern counties (USDA 2016 Rangeland Grasshopper Hazard map). Moderate populations of grasshoppers were reported from Adams and Weld counties in the Front Range area.

We encourage ranchers and producers to monitor grasshopper situations in your area in those counties with moderate or higher risk of the hazard. The rest of Colorado had much lower counts of the insects and no risk of grasshopper infestations or damage is expected in 2016. For details of grasshopper specific hazards maps for your areas/counties, please contact USDA APHIS Colorado office at: 303-371-3355.

Generally, grasshoppers have one generation per year. Eggs are deposited in the ground in the fall. The eggs hatch in the spring and summer (late May through early June) and hatch is dependent on soil temperature, which differs for different species.

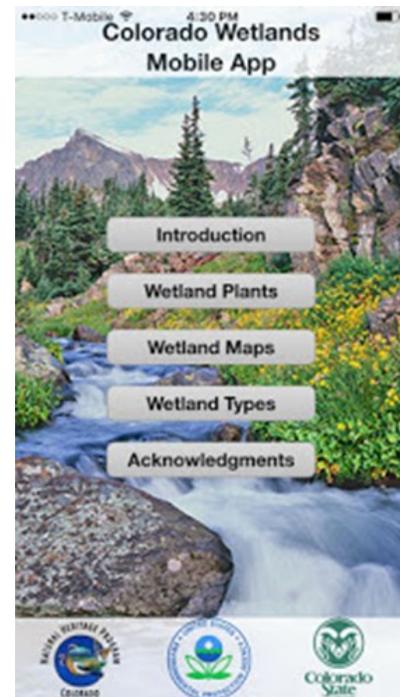
Weather conditions will determine how much of the damage potential will be realized in those areas with light to moderate populations of grasshoppers. For example, the cool wet weather conditions our state enjoyed this spring may cause enough mortality in immature grasshoppers to prevent outbreak. Most grasshopper outbreaks are associated with drought conditions in previous years.

Read CSU Extension's Grasshopper Control in Gardens and Small Acres factsheet for more information <http://extension.colostate.edu/topic-areas/insects/grasshopper-control-in-gardens-small-acreages-5-536/>

Colorado Wetlands App Now Available for Android and iPhones

The Colorado Natural Heritage Program is pleased to announce the release of the Colorado Wetlands Mobile App! The App is available for **FREE** at both the [Google Play Store](#) and [iTunes App Store](#).

The Colorado Wetland Mobile App contains three main sections:



Wetland Plants: Detailed descriptions and photos of 711 plant species found in Colorado's wetland and riparian areas. The plants are searchable through many different search criteria and filters.

Wetland Maps: Access to digital National Wetland Inventory (NWI) maps. The App shows NWI maps for the entire state of Colorado and can use location information from the device to show mapped wetland where the user is located. The Maps screen can also be used to search for wetland plants potentially found at the user's location.

Wetland Types: Brief description of the most common wetland and riparian types found in Colorado. Wetland types can also be used as a filter for searching plant species.

Canada Thistle and Field Bindweed Control Methods

By Karen Crumbaker, Larimer County Extension

You no doubt have seen field bindweed or Canada thistle growing in your area. If so, you know these are two of the most problematic noxious weeds to control. Canada thistle (*Cirsium arvense*) and field bindweed (*Convolvulus arvensis*) are on the Colorado Noxious Weed list because they are non-native aggressive plants that threaten our natural and agricultural lands and disrupt native ecosystems.

What makes these plants so difficult to control are their extensive horizontal root systems and the ability to reproduce by both root system and seeds. Canada thistle has a creeping root system that can extend 15 feet or more and go as deep as 6 to 15 feet. Field bindweed has a taproot that can go 2 to 10 feet deep. Both weeds are perennial, which means they can come back year after year.

Control of any deeply rooted perennial plant is a test of patience. The goal is to stress the plant and force it to use the nutrients stored in the root system. A combination of control methods is favored to help control these weeds -- biological pest control, cultural control, mechanical control, and chemical control.

Biological control methods use host-specific insects to limit the spread of weeds and can be purchased



Canada thistle (left) and field bindweed (right) are aggressive perennial weeds in Colorado.

from the Colorado Department of Agriculture Insectary website: <https://www.colorado.gov/pacific/agconservation/biocontrol>. The insects for Canada thistle have not proven effective, however, the Insectary has been conducting research on a host-specific rust fungus. Bindweed mites and the *Tyta* moth, on the other hand, can be effective at reducing bindweed infestations.

Cultural control uses a healthy grass stand or other desirable plants to outcompete unwanted weed populations. In addition, goats and cattle can be trained to graze Canada thistle and field bindweed.

Mowing or grazing Canada thistle in the summer in combination with an herbicide application in the fall using Milestone has proven effective. [See CSU Extension fact sheet on Canada thistle](#) for recommended herbicides. [For bindweed, read the Colorado Department of Agriculture's fact sheet](#). When using any herbicide, read, understand and follow the label directions.

Mowing or grazing thistle alone is not effective unless conducted over many years on a monthly basis during the growing season. Cutting and grazing bindweed is minimally effective unless the plants are cut below the surface in the early seedling stage.

Thick stands of thistle or bindweed do not respond to pulling or tillage. It will only stimulate new growth from the plant's root system.

These two noxious weeds are not the easiest to control. Don't give up!

Hiring a Weed Control Contractor

To select an appropriate contractor for weed control on your property, differentiate between contractors by asking the right questions. First, inquire about their experience, not just how long they have been in business, but what type of work they have done. It may be important to compare what you want with their experiences. For example if a contractor only has experience with pasture and range weed control, they may not know how to use precision around your landscaping.

Communication is key so discuss what you expect. Consider pointing out sensitive areas such as your garden, and if you graze animals, ask about the re-entry time after spraying. Some herbicides require 45 days before grazing is safe to resume.

Check out the [CO Small Acreage Services Database](#) to find or list a contractor near you.

Landowners Can Receive Financial Assistance to Protect Forestlands

The Colorado State Forest Service is now accepting Forest Legacy Program proposals from Colorado landowners. The program authorizes the CSFS or USDA Forest Service to purchase permanent conservation easements on private forestlands to prevent those lands from being converted to non-forest uses.

The purpose of the Colorado Forest Legacy Program is to protect environmentally important private forest areas that are threatened by conversion to non-forest uses. The program provides an opportunity for private landowners to retain ownership and management of their land, while receiving compensation for unrealized development rights.

Forestlands that contain important scenic, cultural, recreation and water resources, including fish and wildlife habitat and other ecological values, and that support traditional forest uses, will receive priority. Landowners who elect to participate in the program are required to follow a land management plan approved by the CSFS. Activities consistent with the management plan, including timber harvesting, grazing and recreation activities, are permitted.

The Colorado State Forest Stewardship Coordinating Committee will evaluate proposals and recommend to the state forester those proposals that have sufficient merit to forward to the USDA Forest Service. Forwarded proposals will then compete at a regional level; those selected at the regional level will compete nationally for funding.

The application deadline is 4 p.m. July 29, 2016, for federal fiscal year 2018 funding. Proposals must be submitted by standard mail.

For additional information or to obtain an application packet, contact Naomi Marcus at 970-491-6303. Applications also are available online at <http://csfs.colostate.edu/funding-assistance>.



Colorado Small Acreage Services Database

The source for landowners to find contractors, equipment, and services.

<http://sam.ext.colostate.edu/>

Need help with weed control options?
Have a small pasture seeding project coming up?
Search the site today to find a local contractor!



Colorado State University
Small Acreage Management
Colorado State University
Extension
NRCS

This is a free service brought to you by NRCS/CSU Ext. and your local Conservation District

Soil: It's Alive! STEM Kit and Curriculum

By John Rizza, Small Acreage Coordinator, NRCS/CSU Extension

Do you work with middle or high school students and want to teach them about soils? We have developed a new kit and curriculum for educators to help students learn about soil, the soil food web, and the role that soil organisms play in nutrient cycling. The game, **Soil: It's Alive!** is also aligned with Colorado Academic Standards. STEM kits and curriculum are available through the STEM Program and include the materials needed to play the game **Soil: It's Alive!**

In the game **Soil: It's Alive!** the students play the roles of the sun, plant leaves, plant roots, bacteria, fungi, protozoa, and nematodes. The soil organisms obtain "solar energy" in the form of candy (starbursts) in exchange for nutrient candies (tootsie rolls). The organisms play different roles in exchanging nutrient candy for solar candy. During the game, the soil organisms have to adapt to changing soil conditions when the Queen/King rolls the soil condition dice!

In simple terms, soil health is the soil's ability to function. Through the game **Soil: It's Alive!** students experience for themselves that soil organisms drive nutrient cycling in the soil. In optional follow-up activities, student can explore the roles of soil organisms in other important soil functions.

For more information on the **Soil: It's Alive!** STEM kit and curriculum, as well as various other science kits for younger students, please visit <http://www.4hstemk12.colostate.edu/curriculum/stem-kits/>

Colorado 4-H STEM & K-12 programs provide opportunities for youth to learn, practice and apply knowledge and abilities to prepare them for success in careers and life.

Q & A on Small Acreages

Question:

We have piped ditch irrigation water that supplies our home landscape and lawn irrigation system. Everything was working nicely when we started the system up but we are having some pressure issues and seeing brown spots and wilting plants now. Can you help us?

Answer:

It is important to monitor the sprinkler system weekly throughout the season to check for potential problems. Sprinkler heads should be checked for coverage and clogging from debris. Pumps should be inspected to ensure fittings are not leaking. Filters and screens should be cleaned often during spring run-off. Also, inspect wet and dry areas to be sure any lines have not suffered breaks.

As the summer heat is on, an important part of irrigation management and maintenance includes adjusting the automated sprinkler controller to maintain proper watering of the landscape. Inadequate sprinkler controller management can lead to turf and tree dehydration, over watering, rot, mosquito habitat, and insect and disease infestations. A landscape that is too wet is just as harmful as one that is too dry, please refer to the following resources for more information.

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Students play Soil: It's Alive!

Q& A continued from page 6

Resources for irrigation problems:

Operating and maintaining a home irrigation system:

<http://extension.colostate.edu/docs/pubs/garden/07239.pdf>

Watering established lawns:

<http://extension.colostate.edu/docs/pubs/garden/07199.pdf>

Drip Irrigation for home gardens:

<http://extension.colostate.edu/docs/pubs/garden/04702.pdf>

Various irrigation repair related information:

www.irrigationtutorials.com/

Need to repair a broken rigid PVC line? Using the slip fix fitting for repairs:

www.youtube.com/watch?v=so9XZS0aD1s

Proper irrigation maintenance requires landowners to be observant and inspect the system on a regular basis. A little time spent keeping the system in tip top shape can save you a lot of time and headache later.



Question:

We recently moved to CO from MA. We have 35 acres we are trying to bring back for horse pasture. It has been taken over by yucca and cactus. 1. How do we manage the yucca? Is it best to remove it or does it serve a purpose? 2. How/when do we seed the pastures?

Answer:

The yucca and cactus are native plants common in dry sandy soils, and even more prevalent because of drought and overgrazing. They reproduce by stems and seeds. Flowers of the yucca are often eaten by livestock and wildlife.

Cactus and yucca can be dug up manually. For yucca, it's easiest to cut the plant off at the ground and then dig up the roots. Make sure you get all the roots because they can grow back from small roots. Another option is to cut the plant and then paint it with herbicide. Contact your local herbicide dealer to find out what herbicide would work best.

Because grass seeding is expensive and often dry-land sites take 3-5 years to establish, make sure you really need to reseed. If 80% or more of the plants are weeds or unwanted vegetation, then consider reseeding. If there are still plenty of desirable grasses, consider reducing grazing. In most cases, weedy pastures are a result of overgrazing and can be renovated simply by reducing grazing.

For information on grazing and how to plant grasses in your pasture, take a look at the CSU Extension Acreage Management pasture page at www.ext.colostate.edu/sam/pasture.html

Help Slow the Spread of Emerald Ash Borer

By Carol O'Meara, Boulder County Extension

In the two seasons since detection of the Emerald Ash Borer in Boulder, experts have learned that it's very difficult to find. The Colorado EAB Response Team, arborists, and foresters have been looking high and low throughout the Front Range, into tree canopies and on the ground at firewood, trying to find the destructive pest. For a time, the only place that bug was detected was in the city of Boulder. But that changed June 6, when Bodhi Tree Care Arborist James Young saw the classic symptoms of the Green Menace: D-shaped exit holes and serpentine galleries just under the bark on an ailing ash tree in Longmont. He also found one of the bugs half in, half out of the ash, killed as it was emerging from the branch.

Young notified Ken Wicklund, City of Longmont Forester, who went to inspect the tree. In the warmth of the day, Emerald Ash Borer adults – half-inch long, metallic green beetles – were flying around the tree. Wicklund contacted the Colorado Department of Agriculture for confirmation identification, which, sadly, was positive.

At the same time the insect was found in a new Colorado community, our neighbors in Nebraska announced the first detection of the pest, making their state the 26th to have the tree killer. The speed of the spread – to 26 states since its detection in Michigan in 2002, killing hundreds of millions of ash – causes any tree lover to weep in dismay.

As you ponder the decimation of a native North American tree, consider also that complicit in this is humans. The insect arrived here because humans brought it over from its native Asia. It was by accident but, like opening Pandora's Box, the damage was done.

The insect doesn't naturally spread more than

about 1-and-a-half miles per season; for it to leap across the Great Plains or even across our county took humans, moving it in firewood, nursery stock, or shipping pallets. Once infested wood arrived, the insects ventured out into surrounding areas, attacking ash trees. By the time the bug is detected it can be miles away from the original source of the infestation.

This is why Boulder County is quarantined; the EAB Response team is trying to slow the spread. No firewood or any ash wood can be taken out of the quarantine. It will take all of us to do this.

Owners of ash trees near or within the detection sites of Boulder and Longmont should make a plan for what they want to do for their ash. Protection with pesticides, removal, or replacements with saplings of a different type of tree is a personal decision each tree owner should weigh, because the Emerald Ash Borer kills trees in a scant handful of years. The Boulder County EAB webpage offers information on all aspects of what you need to consider (bouldercounty.org/property/forest/pages/eab.aspx).

To aid in your decision, the Colorado State Forest Service has a Decision Guide that walks you through the process (bouldercounty.org/doc/parks/eab-decision-guide.pdf). Be sure to assess the health of the ash when considering protecting it; not all trees are healthy enough to save.

For the most accurate tree health assessment, hire a pro. Certified Arborists are trained to look for symptoms of EAB and many other pests, be they insects, disease, or environmental problems. They can climb the tree to take a close look at it. Find a Certified Arborist through the International Society of Arboriculture (ISA) or look for an accredited company by the Tree Care Industry Association (TCIA).

And don't move firewood or ash wood around. This will help slow the spread of the Emerald Ash Borer.

Colorado Small Acreage Services Database

The source for landowners to find contractors, equipment, and services

[http://
sam.ext.colostate.edu](http://sam.ext.colostate.edu)



Need help with weed control?
Have a small pasture seeding project?
Search the site today to find a local contractor!



This is a free service brought to you by USDA-NRCS, CSU Extension, and your local conservation district

For a list of upcoming events in your area visit CSU Extension Small Acreage

Management website

www.ext.colostate.edu/sam/

Do you have a question about managing your small acreage?

Contact CSU Extension /NRCS Small Acreage Coordinators:

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