



Winter 2014

Issue 20

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

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## Manage Cheatgrass This Winter

By Sharon Bokan, CSU Extension Boulder County

Cheatgrass (a.k.a. Downy brome, scientific names *Bromus tectorum*, *Bromus japonicus*) is a winter annual that originated in Europe. It grows on the decaying straw thatched roofs in the Mediterranean region in Europe. That is how it got its name; *Tectum* is Latin for roof, so “brome of the roof.” Being an annual, it only reproduces by seed. It got its common name, cheatgrass, because it germinates in the fall and early spring and is ready to take up the moisture and nutrients early in the spring before other plants are actively growing. Not all the seeds germinate at the same time so you may have multiple ages of seedlings when doing control. Cheatgrass plants mature and produce seed very early in the summer.

**Continued on page 3**

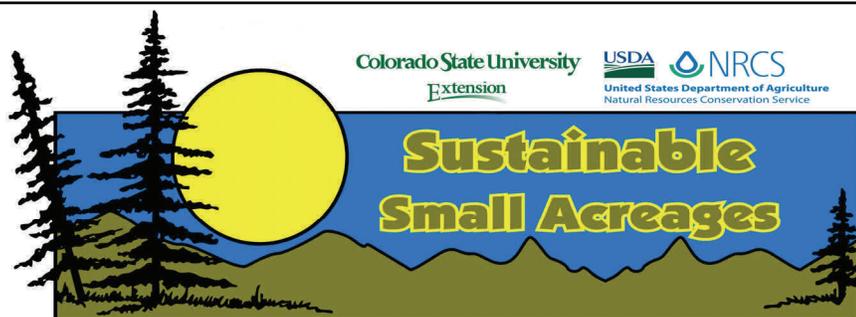
## Radon In Our Homes

By Karen Crumbaker, CSU Extension Larimer County

January is National Radon Awareness Month. The winter months are an ideal time to test your home to determine if it has elevated radon levels. Radon is a naturally occurring, odorless, invisible, tasteless gas that is dispersed in outdoor air, but which can reach harmful levels when trapped in buildings.

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## Radon continued from page 1

Radon comes from the breakdown of uranium in soil and rock which can enter undetected into your home through foundation cracks, dirt floors, loose fitting pipes, slab joints or block walls. Breathing air with elevated radon levels over long periods of time is known to increase the risk of lung cancer. Radon is the second leading cause of lung cancer, with cigarette smoking being number one.

Radon has been identified as a risk factor in developing lung cancer because it decays into radioactive particles that can get trapped in the lungs. These particles release bursts of energy that damage lung tissue. It is estimated that radon may be associated with 21,000 lung cancer deaths per year in the United States. The Surgeon General, the Environmental Protection Agency, the National Academy of Sciences, the American Lung Association, the World Health Organization, and the American Medical Association have all identified indoor radon pollution as a national health problem.

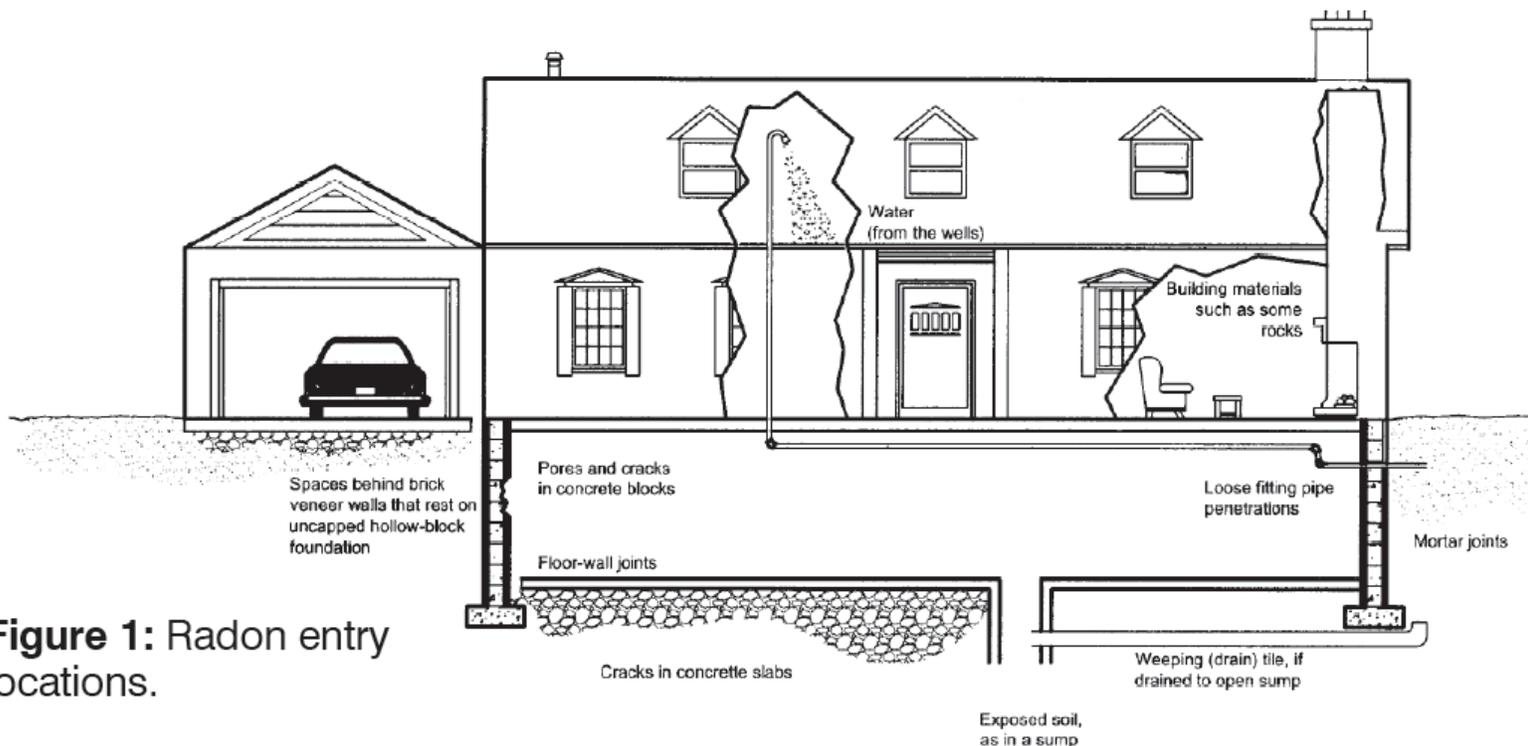
The amount of radon in the air is measured in picocuries per liter of air (pCi/L). The EPA has set 4 pCi/L

as a recommended action level. The majority of Colorado is located in Zone 1, which means these areas have a predicted average indoor screening level greater than 4 pCi/L. Radon levels are influenced by a variety of factors. It is recommended that each home in Colorado be tested, regardless of geographic location or a neighbor's test result.

Every house is different. There are many factors that influence radon levels in a home. Only individual testing can determine if your home has a radon problem. Measuring radon levels is simple and inexpensive. Contact your local CSU Extension office to see if they have short-term radon test or know of a location in your area that provides short-term test kits. You can also visit the CSU Extension webpage at [www.ext.colostate.edu](http://www.ext.colostate.edu) to view fact sheet #9.953 [Preventing Radon Problems in the Home](#).

Colorado radon info  
[www.coloradoradon.info](http://www.coloradoradon.info)

EPA radon information  
[www.epa.gov/radon/states/colorado.html](http://www.epa.gov/radon/states/colorado.html)



**Figure 1:** Radon entry locations.

## Cheatgrass continued from page 1

Cheatgrass plants can produce 1600 seeds per square foot or 478 lbs/acre. Unlike kochia plants that produce numerous seedlings but few survive to produce seed, cheatgrass can have 600 to 1200 plants per square foot each producing seed. The seeds can survive in the soil for 5 years although most germinate the year after they are produced. Cheatgrass seedlings can be identified from other grasses by their reddish color during the winter and their hairy stems and leaves.

Cheatgrass has altered the wildfire regimes because it matures so early in the year, it acts as tinder dry during the hot summer months. It readily and intensely burns. Wildfires in the past have normally occurred approximately every 30 years, but the areas with a lot of cheatgrass, burn approxi-

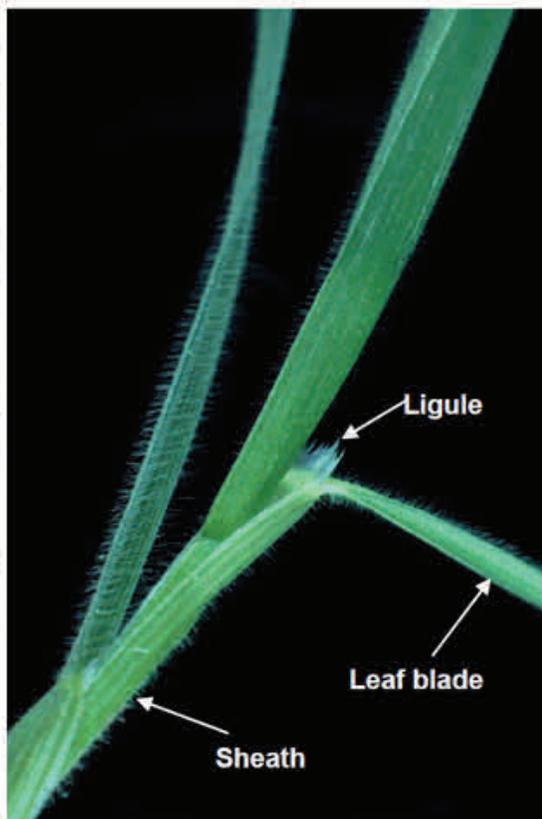
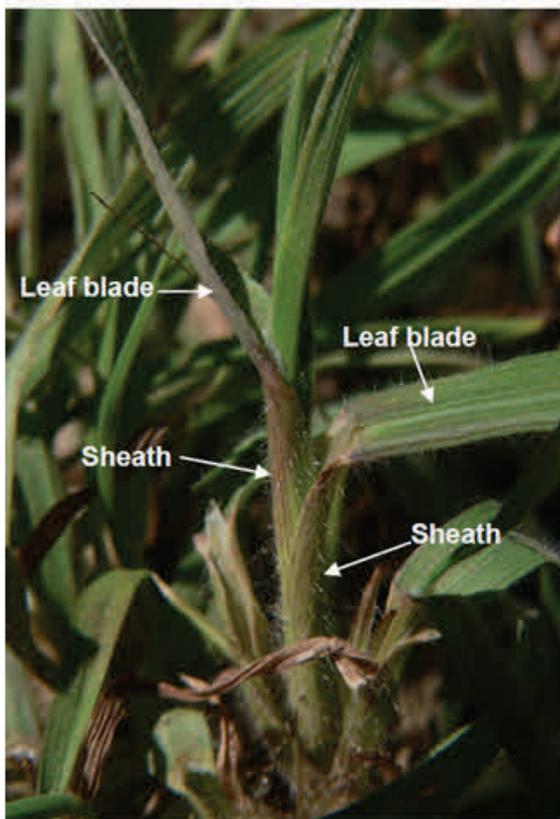
mately every 3 years.

Cheatgrass also changes the nitrogen distribution in the soil profile. It uses the nitrogen in the upper soil profile causing a nitrogen deficiency in that area. Over fertilizing with nitrogen can favor cheat grass growth. Soil temperatures can also be higher in areas with cheatgrass.

For grazing livestock and poultry, cheatgrass is good forage in the spring when it's young, before it produces a seed head. Grazing at this time can be a management tool. If you can overgraze the cheatgrass without overgrazing your desired grass, you can suppress the cheatgrass. Grazing will probably not get rid of it completely, but may make it easier to control.

The key to controlling cheatgrass is to keep it from going to seed by either grazing, mowing or pulling

and being persistent! If you are mowing, mow high the first time so that when it produces a second seed head you have space to be able to mow lower the second time. Set your mower to just below the seed head. If you are ambitious, you can pull out the plants. With a little moisture, they easily pull out of the ground. If they have not gone to seed, you can compost them.



**Cheatgrass must be identified before it goes to seed in order to control it most effectively. Look for these identifying factors. In the winter the grass turns purple-red at the base (left photo). Also look for ligule and hairy sheath and blades (right photo).**

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### Cheatgrass continued from page 3

Once the grass has gone to seed, you will need to bag the seed and dispose of them in the trash. If possible use a mower with a bagger. Once the seed heads come out, you do not want to continue grazing. The seed with its awn can get lodged in an animal's mouth or eyes causing sores and ulcerations. It can also get lodged in fleece lowering its value.

If you have an area with nothing but cheatgrass, you can spray it with glyphosate (Roundup) when the plants are actively growing. If you have an area that is mixed cheatgrass and desirable grasses, you can spray the area with a lighter rate of glyphosate when the desirable grasses are completely dormant in winter or early spring.

**You need to be very careful with this method as you can kill your desired grasses if they are not dormant.** The other herbicide that can be used is Imazapic (Plateau). It can be used both as a pre-emergent, applied in fall, and post-emergent. If you plan to reseed the area after controlling the cheatgrass, make sure you read the label for the time period between application of this herbicide and when you can reseed. Since glyphosate does not have a soil residual, you can reseed after spraying the cheatgrass. Always read and follow the label instructions for application timing, rates, protective equipment and time before replanting. The area should be reseeded with desirable plants as soon as possible to prevent other weeds from coming in. The key to cheatgrass control is persistence and perseverance.

#### References:

Cheatgrass and Wildfire, CSU Extension factsheet # 6.310 [www.ext.colostate.edu/pubs/natres/06310.html](http://www.ext.colostate.edu/pubs/natres/06310.html)

Cheatgrass Management Handbook, CSU and Wyoming State University, August 2013  
[www.wyomingextension.org/agpubs/pubs/B1246.pdf](http://www.wyomingextension.org/agpubs/pubs/B1246.pdf)



### Passion for Food Conference February 15, 2014 8:30 am—4 pm Loveland, CO

The Passion for Food Conference will focus on the art of food, from backyard vegetables to cheese making. This event offers great educational opportunities for urban and backyard growers, as well as small acreage landowners. The program will include presentations on Dairy Goats, Bee Keeping, Organic Insect Management, Bread Making, Weed Management, Growing Your Own Salad Year Round, and Garden Soil Basics. The program features keynote speaker, Reagan Waskom, discussing Colorado's Water Overview. To be held Saturday, February 15 at the McKee 4-H Building; The Ranch in Loveland. Cost is \$45 including lunch and snacks. To register go to [www.larimer.org/extension/passionforfood/](http://www.larimer.org/extension/passionforfood/)

We are also looking for vendors for the Passion for Food Conference. Please contact [jennifer.cook@colostate.edu](mailto:jennifer.cook@colostate.edu) if you are interested in a booth at the event.

# Winter Livestock Care

Sharon Bokan, CSU Extension Boulder County

Unlike humans, livestock do not have the option to go into a heated house and fix a cup of hot chocolate or coffee to warm up next to a crackling fire when temperatures drop below freezing. What can you do to make your livestock more comfortable in the winter?

Livestock species are designed to be able to live outside and survive most weather conditions. The Lowest Critical Environmental Temperature (LCT) is the temperature at which animals can maintain their main core body temperature without supplemental energy (feed). For most livestock if they are dry, the LCT is 20 to 32° F. However, if they get wet, it goes up to 60° F. Both of these temperatures are without a wind chill factor. Another way to think about this is for every 2° F drop in wind chill temperature, livestock energy (feed) requirements go up 1%. To help your livestock maintain good body condition in adverse weather, you need to do several things.

Monitor your livestock for excessive shivering, lethargy and weakness. As animals begin to experience hypothermia, they increase their metabolism to generate more heat. Blood flow to the extremities is reduced. Ears and teats may experience frostbite. Rapid warming of the teats is needed to minimize damage and monitoring for mastitis is required after calving. Some frostbite damage may not be reversible.

Be sure to provide them plenty of forage to meet their added calorie requirement. For horses, you can provide them a warm bran mash, moistened beet pulp or soaked pelleted feed to add water and provide some warm “comfort” food. You may need to not only increase the feed amount, but also the “nutrient density” of it. Add more nutritionally dense (packed with nutrients) grains to the diet. Have your hay tested. Providing good to top quality hay is essential during the winter months.

Water is critical to all living beings. Livestock daily water requirements range from 3 gal/day for sheep to 14 gal/day or more for cattle. They cannot meet their requirements from either forage or consuming snow or ice. Consuming snow or ice can lower the body temperature making them more vulnerable to problems. They need fresh, unfrozen, and if possible, slightly warmed water. Animals tend to drink less when it is cold so they can become dehydrated. You can use tank heaters to help keep stock tanks clear of ice. However, you need to check the heaters to prevent fire and electrocution problems.

The young and the older animals are especially vulnerable during the cold. Providing them some extra bedding, protection and warm food and water is important. If you are lambing or calving during the cold, make sure that the mothers are in a well-protected building with plenty of bedding for warmth. Make sure that the young get dried off quickly.

They don't need a fully insulated, state of the art, heated barn. In many cases, a three sided structure, hill, clumps of trees or a solid fence provides enough protection from cold winter winds. Reducing exposure to wind is a must in the winter. During a snowstorm or cold spring rains, a structure that provides not only wind protection but a roof to keep them dry is needed. Remember that the LCT jumps drastically as animals get wet.

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## Winter Livestock Care continued from page 5

Protection desired will vary by species. Sheep don't mind getting wet but goats do, so goats will tend to seek shelter rather than graze in the open. Some species have thinner hides and hair and therefore get colder more easily. Dairy cattle will chill quicker than beef cattle since they tend to have less hair to insulate them. The coat condition is critical to providing insulation. The more hair the better, as it allows for air space between the hairs to act as insulation. You need to be checking all of your livestock going into the fall, not only for general health and body condition, but also for skin and hair health. When animal hair is wet or muddy, the hair is matted down, limiting the insulating air spaces available. If you provide bedding, it needs to be kept clean and dry. Wet bedding provides no insulation and is no better than lying on the ground.

### References:

The Effects of Cold Stress on Cattle, WVU Extension  
[http://anr.ext.wvu.edu/livestock/cattle/cold\\_stress](http://anr.ext.wvu.edu/livestock/cattle/cold_stress)

Cold Weather for Pets and Livestock, Clemson Cooperative Extension  
[www.clemson.edu/extension/ep/cold\\_livestock.html](http://www.clemson.edu/extension/ep/cold_livestock.html)



## Emerald Ash Borer Detected in Colorado

By Whitney Cranshaw, Extension Entomologist, Colorado State University

The Colorado Department of Agriculture announced recently that emerald ash borer (EAB) has been confirmed to be present in Colorado. The specific detection was in Boulder.

If you are not aware of emerald ash borer, it is arguably the most devastating invasive insect to have breached the North American shores in many decades. Since its accidental introduction into Michigan, and detection in 2002, the emerald ash borer has spread across much of the eastern half of the US and Canada killing tens of millions of ash trees. It will likely eliminate essentially every ash tree where the insect is present, causing extraordinary ecological and economic damage. All species of ash trees native to North America are susceptible, including the very commonly planted green and white ash used as street trees in Colorado.

At present the Colorado Department of Agriculture and federal agencies involved in tracking exotic insects are working to determine the extent of the present infestation. We can hope that it is limited to the single site, but expect a greatly intensified effort in the upcoming year to better delimit the current range of EAB in Colorado.

You will also hear more in the future on what plans there are to help slow the spread of this insect within Colorado. Although eradication is not possible, aggressive management can greatly slow the rate of tree loss and spread of the insect. This can be tremendously helpful in slowing the rate of tree loss, with its associated costs, and in planning for replacements. (This insect will cost many municipalities millions of dollars over the next decade in expenses related to tree removal alone.)

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## Emerald Ash Borer continued from page 6

Specific Colorado-based materials are being developed as there is better assessment of the situation. However in the interim there are many materials already developed elsewhere that I would recommend you familiarize yourself with.

Regarding the Colorado situation I would like to point out one important difference in how the EAB may play out in this state versus the situation in the Midwest and east. Here our ash trees are almost entirely human planted and exist in discrete pockets, with significant geographic barriers in many locations. This can help us to contain and slow the spread and, perhaps, even prevent its establishment in some communities if efforts are made to contain it. That EAB is now in Boulder does mean that it ultimately will spread throughout the northern Front Range. However, outside this region EAB will only move with human assistance. Therefore areas such as Colorado Springs, Pueblo – and everywhere west of the Continental Divide, will not be colonized by EAB without separate introductions by humans. (The beetles are carried on infested ash logs.)

Also, it will be my recommendation that EAB controls only be used in communities where EAB is known to be present. At this point it is only known in Boulder. So if you are not in Boulder, just be aware of this situation, no need to use an EAB controls until the insect is found in your specific area.

Diagnosis of emerald ash borer affected trees is also critical. There are some very useful diagnostic features associated with the insect (D-shaped exit holes, meandering tunnels under the bark). But there are some other wood boring insects associated with ash that are nowhere near as damaging as EAB and have long been present. Plus some beetles that sort of look like EAB.



**Adult emerald ash borer. Photo: David Cappaert**

These are discussed in the Emerald Ash Borer fact sheet at: <http://bspm.agsci.colostate.edu/files/2013/03/Emerald-Ash-Borer.pdf>

Regarding questions for control the North Central region has an excellent publication on control options: <http://extension.entm.purdue.edu/EAB/PDF/NC-IPM.pdf>

Since many of these controls involve the use of systemic neonicotinoid insecticides, and these insecticides have generated controversy in some circles, this is addressed in the sheet at: <http://extension.entm.purdue.edu/eab/PDF/potentialSideEffectsofEABInsecticidesFAQ.pdf>



**Emerald ash borer larval tunnels. Photo: Art Wagner USDA-APHIS**

Guidelines as to how to make economic decisions on EAB management are in the publication: [http://extension.entm.purdue.edu/EAB/PDF/NABB\\_DecisionGuide.pdf](http://extension.entm.purdue.edu/EAB/PDF/NABB_DecisionGuide.pdf)

Several Midwestern universities have excellent EAB resources, including publications (such as above) Q&A sheets, and other fact sheets. Among these I would recommend the ones found at

- Purdue: <http://extension.entm.purdue.edu/EAB/>
- The national web site at: [www.emeraldashborer.info/index.cfm#sthash.s0d4HUI9.dpbs](http://www.emeraldashborer.info/index.cfm#sthash.s0d4HUI9.dpbs)

## In Spite of Nerve Damage, Farmer Keeps on Farming

### *AgrAbility Project Helps Ag Workers with Disabilities*

**Hartsel, Colorado** October 2013 – One sign that you have strong farm roots is deciding to retire and start farming. Dean Wierth in Hartsel, Colorado, west of Colorado Springs, lives on a farm where he raises cashmere goats for fleece and Spanish goats for meat. It's the work he always hoped he could do in retirement as he remembers spending days as a young man raising cattle, working the fields, and repairing machinery. Dean has done about everything in farming and ranching at one time or another, and he settled on a fleecing and kidding operation in the beautiful mountains of Colorado. He followed his dream, building his most recent farm operation. But that path was suddenly interrupted nearly two years ago.

His challenges began with pain and tingling in his legs and feet. Then it progressed to balance and coordination issues, which limited his ability to walk without assistance. Wierth visited his doctor, who initially diagnosed the symptoms as being related to nerve damage or peripheral neuropathy of his feet and hands. Why this was happening was unclear, and how to deal with the pain and limited mobility was unclear as well. The effects can vary, and in Wierth's case, it was devastating.

Wierth faces each day unsure of the impact the neuropathy will have on him. "At first you have no feeling or nothing in your hands and feet, and at times the pain is unbearable," he said. "Not able to feel your feet and know where you are placing them leaves you pretty limited in traveling to and

from your livestock several times each day." This winter Wierth lost nearly his entire kid crop due to the unusual spring weather and inability to access his livestock due to his physical limitations.

Wierth did not know whether he could continue farming since experiencing the physical limitations. But when he reached out to the Colorado AgrAbility Project he knew, "I just always liked to farm," he said. "You get out there and you're by yourself and you do what you want to do. It's good therapy, and with Candy Leather's help and recommendations from the Colorado AgrAbility Project, I will continue with my goals and dreams." Despite his disability and his struggle to regain his balance, strength, and coordination, he just doesn't want to consider that he could not farm and ranch.



#### **About Colorado AgrAbility Project**

Colorado State University Extension and Goodwill Industries of Denver work together on the Colorado AgrAbility Project to provide disability workshops, on-site evaluations, resource information, equipment modification and assistive technology. The U.S.

Department of Agriculture National Institute of Food and Agriculture provides funding for the Colorado AgrAbility Project.

Colorado AgrAbility is a part of a national program that helps farmers and ranchers overcome disabilities to stay on the land. Through the assistance and guidance of the AgrAbility Project, Wierth acquired a utility vehicle that allows him access to his pastures, corrals, and livestock. While he can't do as much as he used to, he still benefits from numerous pieces of equipment that help him with raising goats, birthing kids, and tending his animals safely and efficiently. With the use of the utility vehicle, he remains independent in his livestock

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## AgrAbility Project continued from page 8

maintenance, and is optimistic about what the future holds.

### About Goodwill Industries of Denver

Goodwill Industries of Denver seeks to reverse the cycle of poverty through career preparation and skills training for at-risk youth, struggling families and individuals with disabilities. Through its thrift retail operations and community programs, Goodwill is ensuring that every individual in our community has the opportunity to live to their fullest potential and overcome barriers to success and self-sufficiency. Visit [www.goodwilldenver.org](http://www.goodwilldenver.org) to learn more.



**Colorado AgrAbility will host free workshops across Colorado this winter.** The workshop, “AgrAbility Farm/Ranch Adaptations & Financial Resources,” will take place from 9:00 a.m. to Noon and includes lunch for those who pre-register at least one week prior to the workshop.

To pre-register or get more information about the Colorado AgrAbility Project, participants can call Dr. Bob Fetsch (970) 491-5648, e-mail him at [Robert.fetsch@colostate.edu](mailto:Robert.fetsch@colostate.edu) or visit [www.agrability.chhs.colostate.edu](http://www.agrability.chhs.colostate.edu)

- Steamboat Springs: Wednesday, January 29, 2014, Historic Courthouse, Commissioners’ Hearing Room, 522 Lincoln Ave., Steamboat Springs, CO 80487 with Todd Hagenbuch (970-879-0825).
- Monte Vista: Monday, February 3, 2014, Cham-

ber of Commerce, 947 1<sup>st</sup> Ave., Monte Vista, CO 81144 with Marvin Reynolds (719-852-7381).

- Trinidad: Wednesday, February 5, 2014, Trinidad Junior College, Sullivan Student Center Multi-purpose Room, 600 Prospect Ave., Trinidad, CO 81082 with Dean Oatman (719-846-6881).
  - Pueblo: Thursday February 6, 2014, Pueblo Zoo, 3455 Nuckolls Avenue, Pueblo, CO 81005 with Carolyn Valdez (719-583-6574).
  - Holyoke: Tuesday, February 11, 2014, Extension Office Events Center, 22505 Highway 385, Holyoke, CO 80734 with Dennis Kaan (970-345-2287).
  - Ft. Morgan: Wednesday, February 12, 2014, Ft. Morgan Extension Office, 914 E. Railroad Avenue, Fort Morgan, CO 80701 with Bruce Bosley (970-768-6449) and Luann Boyer (970-542-3544).
- Aurora: Thursday, February 13, 2014, Arapahoe County Fairgrounds & Event Center, Room 1, 25690 East Quincy Avenue, Aurora, CO 80016 with Sheila Gains (303-730-1920).

**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/](http://www.ext.colostate.edu/sam/)



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