Front Range Sustainable Small Acreage News

Summer 2010 Issue 6

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Inside this issue:

Use "weedy" Native Plants to Fight Noxious Weeds

By Irene Shonle, Director of CSU Extension in Gilpin County

Warm weather and rain are bringing out the weeds. Many different kinds of weeds are now showing up along highways, public lands, and in private yards. Some of these "weeds," however, are not noxious. In fact, they're not a problem at all!

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Manure: A Renewable Resource

By Adams County Extension

You have heard of water in the West as *"white gold*", but in our country, acres of farm animals create *"black gold",* or manure. The manure from just one horse contains valuable nutrients that could be worth over $150, in fertilizer costs.

But in the wrong place, this *"black gold"* becomes a pollutant as it washes off the soil and into the nearest stream or well. In the stream, or well, the nutrients and bacteria may cause algae blooms, kill fish, and pollute drinking water.

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Weedy Natives continued from page 1

These are the "weedy" native plants that, before the advent of our noxious weeds from Eurasia, once filled in the gaps opened by soil disturbances. Back then, these disturbances might have been from trees falling, fires, floods, animals, or other factors. Today, roads, other construction, septic system installations, etc, tend to be what causes the disturbance, and, sadly, noxious weeds often jump to fill in the disturbed soil.

Because weedy natives (more properly called early successional species) behave so much like their noxious counterparts, people often become alarmed and think they must actually be a noxious weed. Instead, these plants are just well-adapted to colonizing disturbed areas. If left in place they can often prevent noxious weeds from coming in. What's more, they frequently act as "nurse" plants. These are plants under which the germination and survival of more "permanent" species are more likely because of the increased shade, soil moisture, and nutrients.

One early successional plant that has been causing quite a few visits to my office lately is Scorpionweed *(Phacelia heterophylla).* This is an ungainly plant with stiff hairs and a strange looking flower . In bare ground, it can spread aggressively – but this, as you're learning, can be a good thing. Unless you have immediate plans to replant that bare ground with something else, consider leaving it to keep the weeds out. Eventually, other plants (often prettier) will germinate underneath it, and will replace the scorpionweed.

Other early successional native plants that look and act weedy but are helpful in filling empty spaces are gumweed (*Grindelia squarrosa*), tansy aster *(Macaeranthera bigelovii)*, common evening primrose *(Oenothera villosa),* fireweed *(Epilobium angustifolium),* yarrow *(Achilllea lanulosa),* foxtail barley *(Hordeum jubatum),* and pineapple weed (*Matricaria discoidea).* Consider enlisting the help of these sometimes cosmetically-challenged native species to fight your weed battle for you!

Pineapple weed

Gumweed

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It may not seem like your residence, with its manure pile and muddy corral, is a big deal in the big picture. But, there are thousands of your size operations in Colorado, and it all adds up to a potential major issue, if we don't follow good manure & mud management practices.

An average 1,000-pound horse produces 9 tons of manure a year (50 pounds per day), containing valuable fertilizer elements (see table). Add to that an additional cubic foot of bedding material and you get 730 cubic feet a year from one horse. That's 122 wheelbarrow loads!

Manure	% Nitrogen	% Phosphate	% Potash
Beef (fresh)	0.6	0.4	0.5
Beef (dry)	1.2	2.0	2.1
Chicken (fresh)	0.9	0.5	0.5
Chicken (dry)	1.6	1.8	2.0
Hog (fresh)	0.6	0.3	0.4
Hog (dry)	2.2	2.1	1.0
Horse (fresh)	0.6	0.3	0.5
Rabbit (fresh)	2.4	1.4	0.6
Turkey (fresh)	1.3	0.7	0.5
Bat	6.0	9.0	3.0

Nutrient content of manures. *Data from NC State University*

Colorado's horse industry uses two principal feed management systems, according to a recent survey. The first system permits horses to graze full-time on pastures and the manure is not collected or treated. Pasture manure usually is broken up by harrow cultivation that promotes decomposition.

The second system confines animal feeding, and the horses are kept in stalls or runs. The horses may be housed in box stalls and provided a bedding source for urine absorption. Alternatively, horses are kept in corrals, or runs and some runs are attached to stalls. Manure is managed in one or more of the following ways: **1)** manure is removed daily and composted; **2)** manure is removed daily and stored in piles; and **3)** daily land application.

DEVELOP A MANURE MANAGEMENT PLAN

Animal owners have a responsibility to manage the manure that is a byproduct of their industry or hobby. Develop a management plan for manure and soiled bedding. Manure can be used on croplands, arena and trail surfaces, and landscaping. If you don't plan to use the manure yourself, develop a marketing plan so others can make use of it.

Contract or donate compost to crop farmers, community landscapers, parks, neighborhood gardeners, and friends. Offer a discount to boarders if they dispose of manure. The people who come to watch others ride are another potential market for manure or compost sales. Before you can market the product, it must be completely and properly composted and free of foreign material such as pop cans, wire, and syringes.

Make an arrangement or contract with a landscaper, nursery or crop farmer. Be prepared to handle your own byproduct. One option may be to deliver manure, at your cost, to a site where contracts do the composting. Predetermine the bedding types they prefer in their compost mix.

COLLECTION OF MANURE

Horses housed in stalls and sheds require soft absorbent bedding, such as pine wood chips, or straw. Remove manure and soiled bedding on a regular basis and handle appropriately to prevent fly infestation and disease transmission.

Key Issues

- Raw manure and mud provide a breeding ground for flies
- Accumulated mud and manure cause thrush, rain scald, and other diseases
- Dried manure produces molds and causes respiratory problems in horses and cattle

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- Heavy manure applications overfertilize grasses. Animals that eat these grasses may suffer nitrate poisoning and grass tetany.

Pastures—Manure management in pastures depends primarily on getting good distribution of manure across the pasture. To avoid manure concentration in isolated spots in a pasture, distribute grazing evenly. Rotational grazing is one of the best ways to achieve this goal. Use fencing to split pastures. Horses can be moved between pasture areas to distribute the manure more uniformly. Have several watering facilities available and move feeding facilities periodically to encourage better manure distribution.

To avoid soil compaction and manure runoff, do not graze during rainy periods when soils are saturated. Restrict access to streams to avoid manure deposition in or near water bodies. This can be done by fencing or providing shade away from the streams. Refrain from excessive stocking rates that lead to overgrazing. Damaging the grass stand increases manure runoff potential from pastures.

STORAGE AND TREATMENT

Manure is commonly **stockpiled** prior to use. Adequate storage area allows for greater flexibility in timing of manure use. Therefore, be sure you have a large enough storage area to accommodate the manure produced. Over time, the manure shrinks from decomposition and moisture loss. Proper site selection for the storage area is important, to safeguard against surface and ground water contamination. Place stockpiles at least 150 feet away from surface water (creeks and ponds) and wells.

Establish and maintain grass buffer strips between water bodies and manure piles. Construct a perimeter ditch or berm around the storage area, if needed, to prevent runoff onto or off of the area.

Composting produces a relatively dry end-product that is easily handled and reduces the volume of the manure. Composting at proper temperature can kill fly eggs and larvae, pathogens and weed seeds. Compost has less of an odor compared to raw manure and is more easily marketed. Composted manure acts as a slow release fertilizer and an excellent soil conditioner.

Microbes that drive the composting process require optimum conditions of temperature, moisture, oxygen, and carbon:nitrogen (C:N) ratio. The C:N ratio should be between 25:1 and 30:1. Horse manure has an estimated ration of 50:1. With the addition of bedding material (high carbon content), the C:N ratio will be even higher.

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Manure can be composted in rows, and turned frequently.

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Therefore, N has to be added to the manure for it to compost properly. The addition of grass clippings, hay, or fertilizer should bring the C:N ratio into the optimum range. When the ration is correct, microbes work properly and the compost temperature will be between 120 and 160 F. Cooler temperatures result from a lack of N. When the composting process is complete, the temperature will cool naturally.

It is important to have the right balance of moisture and air for the microbes to process the manure. The compost should be moist but not soggy, and may need to be watered or covered with plastic to maintain moisture. Aerate the compost by turning it regularly. The manure and bedding particles should be about one-half inch to one and a half inches in size.

Land Application - Record keeping is an essential factor in land application of manure/compost. It is critical to know how much manure/compost was applied to each field and when it was applied. Analyze manure/compost regularly and record the lab results for future reference.

Do not apply manure to land that is highly erodible frozen or saturated. To protect water sources from manure runoff, do not spread manure within at least 150 feed of water source (such as a well, creek, or pond). Incorporate manure into the soil as soon as possible. Incorporating manure (mixing the manure with the soil) immediately reduces losses of manure nutrients to runoff and volatilization, and reduces odor problems associated with manure left on the soil surface.

Base the manure/compost application rate on crop N needs and available soil and manure N levels. Test your soil and manure for N levels at a certified laboratory. In general, the higher a crop yield goal, the greater the N needs. Irrigated crops also tend to need more N.

PRECAUTIONS

Virtually no viral diseases are transmitted between horses and humans through fecal material, but some bacteria and protozoan (such as E.coli and Giardia) can be transmitted in this manner. In addition, horse manure runoff into waterways may produce fecal coliform contamination levels that can be potentially hazardous to fish and anyone who drinks that water.

Runoff - Runoff water from dry lots, pastures, and manure storage or compost areas carries pollutants (such as nitrogen, phosphorus, and bacteria) into surface waters. Avoid over irrigation of pastures. Build berms or trenches to prevent water from entering or leaving dry lots and manure storage and composing areas.

Insect Control - Excellent fly-breeding conditions occur in mixtures of manure, spilled feed and decaying bedding. To help eliminate these areas, remove the manure regularly and prevent accumulation of their wastes. Composting at proper temperatures inhibits fly development. Several pesticides can be used on manure piles to kill maggots.

Small scale manure spreader
photo from countrymanufacturing.com

Salinity - Manure tends to be high in salts, which when land applied at excessive rates, contribute to soil salinity. Soil salinity causes plants to become water stressed or, in extreme cases, die.

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When manure is not soil-incorporated, as in applications to pasture, the salts accumulate on the soil surface unless they are leached into the subsoil.

MANAGING MUD

Mud can make chore time unpleasant, increase fly breeding areas, transmit diseases, create unsafe footing, and increase polluted runoff. Often the best protection against mud is prevention. Reduce the amount of rain that runs through your animal yard and you will reduce mud and polluted runoff. Tips to reduce runoff include:

Install roof gutters and downspouts to divert clean water from the animal yards

Protect downspouts from animal and equipment damage by using heavy polyvinyl chloride (PVC) pipe, a hot wire, or a permanent barrier. Empty downspouts into a stock watering tank, rain barrel dry well; tile line, road ditch, or creek.

Control runoff—Locate new animal yards at least 100 feet from wetlands, ditches, and streams. Curb concrete animal yards or use an earthen berm around animal yards that are close to wetlands, streams, or ditches. Divert animal yard runoff away from wetlands, ditches, and stream and into a vegetated area that can filter the flow. Divert clean water above animal yards to wetlands, ditches, and streams. Close open ditches with a buried pipe to carry water past animal yards. Tips to reduce mud and potential pollution include:

Fence animals away from wetlands, streams, or ditches. Rotate water tank areas to avoid mud and manure buildup.

Use sacrifice area—Move animals into a corral, run, or pen when pastures are wet in the winter or when grass is less than 3 inches high in the summer. These holding areas are called "sacrifice areas" because the grass is "sacrificed" to preserve cover in the pastures. Locate a new sacrifice area on high ground and at least 100 feed away from wells and open water. Maintain a 25-foot grass buffer around the sacrifice area to filter polluted runoff.

Install firm footing—Muddy areas are often found at barn entrances, lanes, gates, and loafing areas. Gravel, geotextile, or wood chips can be used in these areas.

Design drainage—Slope the animal yard with a 4 to 6 percent grade and use a southern aspect for quick drying.

ADDITIONAL INFORMATION

IT'S THE LAW

You are responsible for managing manure to protect surface water and groundwater. Federal and state laws forbid discharging animal wastes into water.

Would you believe that manure management could increase your property values? If you are selling your property, manure facilities can be an asset under today's regulatory requirements.

Colorado State University Extension Service AND Natural Resources Conservation Service offer workshops, publications, and over the phone assistance on manure management and composting.

For more information read the following CSU Extension factsheets:

"Using Manure and Compost as Nutrient Sources for Fruit and Vegetable Crops"
http://www.extension.umn.edu/distribution/horticulture/M1192.html

"Horse Manure Management"
http://www.extension.org/pages/Horse_Manure_Management

Colorado Proud

From juicy peaches and tender beef to luscious lamb and tempting treats, summer in Colorado showcases a bounty of local products at grocery stores, farmers' markets and restaurants across the state. To promote Colorado agriculture, Governor Bill Ritter has declared August as Colorado Proud Month.

"The variety of foods Colorado produces is simply amazing," said John R. Stulp, Commissioner of the Colorado Department of Agriculture. "August is the perfect time to experience the diversity of Colorado agriculture by buying locally grown, raised or processed food products."

Colorado Proud, created by the Colorado Department of Agriculture in 1999, promotes locally grown, raised or processed food and agricultural products to consumers statewide. Currently, the program has more than 1,300 members including growers, processors, restaurants, retailers and associations.

"Agriculture continues to be an important industry in Colorado, and Colorado Proud helps showcase our state's bounty," said Stulp. "Buying products with the Colorado Proud logo benefits our local farmers, ranchers and processors as well as the state economy."

To find Colorado products, farmers' markets, a crop calendar, restaurants and recipes, visit www.coloradoproud.org.

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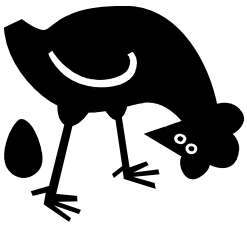
Backyard Chickens



By Jennifer Cook

Raising backyard chickens can provide you with fresh eggs, pest control, and hours of entertainment. It may even save you some money. But before you get started, it is important to learn about what chickens need to be healthy and happy. First step, make sure your local municipality allows you to have chickens!

I visited with Greg and Patty Michaud for an afternoon on their small acreage in Laporte, CO to learn more about raising chickens. Greg and Patty produce organic and conventional eggs and raise pullets (young female chickens). They also run a small feed store. They convinced me that keeping a small flock of hens can be easy.

Hens are productive egg layers for two to four years depending on the breed. Expect one egg every day or two per chicken for the first two years, and realize that egg production will decrease during the winter. Roosters are not necessary unless you want the eggs to be fertile. Greg told me the trick to having consistent egg layers is simply meeting their food, water, and shelter needs.

Food and Water

Chickens need constant food and water supply. Water must be under 80 degrees Fahrenheit and not frozen solid. Provide a free choice supply of complete LAYER feed which will have extra calcium, 16-18% protein, and essential amino acids/ vitamins/minerals. Also feed ground oyster shells or ground egg shells for calcium if needed. Chickens are great nutrient cyclers. They will eat kitchen scraps like veggies, fruit, meat, bones, and dairy. They love grass clippings, bugs, seeds, worms, and weeds. During cold weather, provide

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Use a heated base to keep water from freezing in the winter.

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extra energy with "hen scratch" such as corn or soy grains. Flax seed will provide omega-3's when greens are not available. Alfalfa hay can also be fed.

Chickens have gizzards which are like secondary stomachs that help them grind their food before digestion. This process requires chickens to swallow gritty substances like gravel. If chickens to not have access to gravel in the chicken run, you can purchase "grit."

Sunlight and Soil

Access to outdoors is essential for healthy chickens. Install chicken fence around your property and let the chickens "free range" a few hours every day. If needed, clip their wings to keep them from escaping. In the chicken run and coop area, shoot for at least 10 square feet per chicken and make sure there is soil because chickens like to take dirt baths to deter mites. When it snows, it's good to shovel the runs because chickens don't like to walk in the snow.

The Coop

Coops need to protect chickens from heat, sun, wind, extreme cold, and predators. Use lots of high carbon litter like wood shavings, tree leaves and straw as bedding. The coop should provide a place for the chickens to lay eggs and a place to roost.

Wild chickens roost in trees at night. To simulate tree limbs, build roosting bars as high as practical and accessible in the coop. Chickens are very docile and vulnerable at night. Make sure predators like raccoon, fox, mountain lion, skunk, hawk, and coyote, are closed out. Farm cats can stay in the coop at night to hunt mice.

Nesting boxes should not be directly under the roosting area because chickens poop a lot at night. Greg recommends building the boxes 12" X 12" X 18" tall with a 6" tall front to hold straw. Plan on one box per four or five birds. Keep the boxes cleaned daily so your eggs will be clean.
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Greg's nesting box

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Other Considerations

- Labor – daily egg collection and feeding.
- Smells – use high carbon litter to reduce manure smells. Greg and Patty use the litter from the coop as compost in their garden.
- Noise – hens make some noise when they lay an egg. Roosters crow every morning. Tell your neighbors in advance if you expect noisy chickens.
- Pathogens and Diseases – not much in a small flock. Don't kiss the birds, and wash your hands and equipment.
- Disposal – How will you manage the older chickens which are no longer laying eggs? Keep them, eat them, euthanize them according to local regulations, or donate to animal rescue operations such as the Raptor Rehabilitation Center.

For more information:

Chickens in Your Backyard, A Beginner's Guide by Rick and Gail Luttman

CSU Extension factsheet, "Home-Produced Chicken Eggs" at http://www.ext.colostate.edu/pubs/foodnut/09377.html

CSU Veterinary Extension: Avian webpage at http://veterinaryextension.colostate.edu/menu2/avian.shtml

Pubescent wheatgrasses are cool season grasses

Grass Tidbits

Warm- and Cool-Season Grasses

Different grass species grow best when the weather is either cool or hot. Cool-season grasses grow best in the cool, moist months of spring. With adequate moisture, they will re-grow in the fall. They typically go dormant in the heat of summer; however, some continue to grow with adequate moisture. Orchard grass is an example of a cool-season grass.

Warm-season grasses do not begin growth until about mid-May when soil temperatures reach 60 degrees F to 85 F. They are adapted to the hotter temperatures of summer and go dormant in the fall. Blue grama and the various bluestems are examples of warm-season grasses.

Native and Introduced Grasses

Commonly available forage grasses are native either to Colorado or another country. Native grasses that grow along the Front Range evolved with the climate and soils. They typically live longer than introduced species and require little maintenance. They have the disadvantages of being more expensive per pound of seed and needing two to four years to establish before being grazed.

Introduced grasses evolved outside of North America and were brought here for their forage qualities. They establish faster than natives and can be ready for grazing within a year or two. (Russian wild rye is an exception; it can take four years to establish.) They respond better to fertilizer and irrigation than natives, and seed cost is low. Introduced grasses may not have the longevity of native grasses.

Choosing between native and introduced grasses may come down to a personal preference. A good variety of species exists from each origin. On extremely dry sites, the introduced 'Hycrest' crested wheatgrass may be the best choice to insure establishment. For adequately irrigated pastures, introduced grasses have the highest yield potential.

Energy Rebates Still Available

Source: denverpost.com

More than 26,000 homeowners and businesses have snapped up about $11 million in state rebates for energy-efficient appliances and home improvements since the "Recharge Colorado" program began April 19. All the rebates for dishwashers and solar hot-water systems are gone — as are those for refrigerators, clothes washers, tankless gas water heaters and photovoltaic solar panels. There are, however, still 38,481 rebates for a number of energy-saving items, including insulation, duct sealing, energy audits and residential windmills. "We are very pleased with the response," said Todd Hartman, a spokesman for the Governor's Energy Office, which runs the program. "We just want people to know there are still some rebates available." The $18 million Recharge Colorado program is part of $300 million in federal economic-stimulus funding.

People can apply by phone or online and are given a "reservation" for 10 to 30 days — depending on the type of rebate — to buy an appliance or contract for work. Then, they file with the state for the rebate. Of the more than 26,000 reservations to date, 10,552 claims worth $4.8 million have been processed, according to state data.
Residents of 59 of Colorado's 64 counties have participated in the program.

Colorado's run on energy rebates

Rebates for some popular Recharge Colorado items have waiting lists, but there are still rebates available for some categories.

Product category	Rebates offered	Status	Rebate funds claimed	Rebates processed
Energy audits	19,537	19,343 rebates available	$14,550	$7,375
Insulation and air sealing	10,433	9,945 rebates available	$195,200	$151,080
Furnaces (gas condensing)	7,230	4,805 rebates available	$1,212,500	$774,500
Refrigerators	6,660	Oversubscribed	$639,975	$196,800
Clothes washers	6,000	Oversubscribed	$593,550	$160,675
Dishwashers	4,000	Oversubscribed	$320,850	$75,650
Gas condensing water heaters	3,750	1,109 rebates available	$528,400	$19,600
Duct sealing	3,214	3,141 rebates available	$5,475	$2,245
Energy monitors	2,100	Oversubscribed	$228,550	$150
Residential photovoltaic	580	Oversubscribed	$2,817,000	$1,651,500
Gas boilers	500	Oversubscribed	$571,600	$28,000
Gas tankless water heaters	500	Oversubscribed	$158,700	$26,100
Residential solar thermal	260	Oversubscribed	$1,260,000	$504,000
Small commercial photovoltaic	174	54 rebates available	$1,440,000	$744,000
Residential wind	117	56 rebates available	$457,500	$180,000
Small commercial solar thermal	37	4 rebates available	$408,000	$216,000
Small commercial wind	35	26 rebates available	$108,000	$36,000
Total			**$10,959,850**	**$4,773,675**

Source: Governor's Energy Office *The Denver Post*

Tour de Farms 2010
August 28 (8:30-1:30)
Fort Collins, CO

The Rocky Mountain Sustainable Living Association announces the 5th annual Tour de Farms, on Saturday, August 28th from 8:30 am to 1:30 pm in Fort Collins. This is an opportunity for area residents to explore local agricultural projects through participating in a 8-mile leisurely bike ride.

Visit cutting edge urban agriculture projects, hear presentations from farmers, gain useful tools and knowledge for your own garden, find out ways you can support area efforts to strengthen our local food system and eat delicious local food with delicious local people.

Plus, you can stay connected to your new gardening and biking community with a discussion forum only available to tour participants. Tour de Farms highlights important elements of sustainable communities and our local living economy. Enjoy the future of food!

$35 per rider, limited to 50 participants, includes lunch. Register in advance at http://www.sustainablelivingassociation.org/tourdefarms/

Small Acreage Workshop
September 11, 2010
Fort Collins, CO

CSU Extension, NRCS, and the Big Thompson, Fort Collins, Longmont, West Greeley, and Boulder Valley Conservation Districts are hosting a small acreage workshop on Saturday, September 11, 2010 from 9:00 a.m. to 4:00 p.m. at the First National Bank Exhibit Hall at The Ranch in Loveland, Colorado.

Topics include pasture management, poisonous plants to livestock, poultry management, manure management and equipment, weed identification and equipment, and water management. The cost is $15, which includes lunch and refreshments.

All who attend will be eligible to win a $500 Extreme Makeover for their property! Registration closes on September 4, 2010. To register go to **http://nococd.org/page15.html**

Green Home, Green Wallet
September 11, 2010
Golden, CO

Join CSU Extension's Alternative Energy Specialist Cary Weiner from 9:00am to 10:30 am to discuss various home energy options. We will cover energy conservation, energy efficiency, solar PV and solar thermal, small wind, geothermal, costs incentives, and payback periods. This event is free, but pre-registration is appreciated. RSVP to Cary Weiner at 970-491-3784 or cary.weiner@colostate.edu

Basics of Water
September 18, 2010 (9-3pm)
Westcliffe, CO

The Custer County Conservation District is hosting a free workshop all about water. Topics will include Basic Weather Patterns, Water Flow Patterns and Distribution, Water Volumes/Level, Watersheds, Ground and Surface Water, Water Resources/Reserves, Water Conservation, Water Quality, Water Augmentation and Policies, and Water Agencies. RSVP to Robin Young at 719-783-2481 or robin.young@co.usda.gov

Boulder County Ag Tours
September 20
Longmont, CO

Boulder County Parks and Open Space along with Colorado State University Extension will conduct monthly tours to farms in Boulder County from June through September, 5:30-8:30 pm. The goal of the tours is to show Boulder County citizens the spectrum of agricultural production systems, issues, challenges and opportunities on Boulder County open space lands. The tours will highlight different farms each month, representing field and forage crops, vegetable crops and livestock. The farmers will be available to answer questions.
To register go to
http://www.bouldercounty.org/openspace/management_plans/cropland_policy/signup.htm

Forestry Workshop
September 25, 2010 (8:30 am-3:30 pm)
Jamestown, CO

Join us at the Cal-wood Education Center in Jamestown for a day of forest management discussion and learning. Some of the topics to be covered are: Thinning Strategies and Benefits; Slash Treatments and Standards; Value Added Products/Ecosystems; and Pest Identification.
To learn more and to register, contact the Boulder County conservation District at 303-776-4034 ext 3.

Setting Up a Grazing System on Your Organic Dairy Farm Webinar
October 1, 2010
Webinar (participate via any computer with internet access)
In this webinar, we will address the basic principles of how to set up a grazing system which will improve pasture quality and animal performance. We'll include paddock size calculations, recovery periods, maps and record-keeping, and further resources.
To register go to
http://www.extension.org/article/28799

Going Green on Small Acreage
November 20, 2010 (9am-1pm)
Castle Rock, CO

Small acreage landowners have the opportunity to learn lots from this workshop. A range of topics will be discussed including, Grass Hay for Horse and Livestock, New Fruits & Nuts for the Front Range, Community Supported Agriculture, Homestead Planning, and Weeds! Join us at the Douglas County Fairgrounds.
Registration required and lunch provided. RSVP to Joe Julian at 720-733-6951 or jjulian@douglas.co.us

To keep updated on event in your area, visit **CSU Small Acreage Management website** www.ext.colostate.edu/sam/

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Colorado State University
Extension