



Fall 2011

Issue 11

www.ext.colostate.edu/sam

Inside this issue:

Resources to Consider when Buying or Designing a New Property	1
Winter Plant Protection	1
Windbreaks for Snow Deposition: CSP On-Farm Pilot Project	5
Improving Land for Pheasant and Other Grassland Birds	6
Grow Hops in Colorado	7
Funding Assistance for Farm Practices	9
Upcoming Events	10



Resources to Consider: when buying or designing a new property

By Eric McPhail, CSU Extension, Gunnison County Director

Buying a new property and acreage can be one of the most hopeful endeavors you ever undertake. There are so many possibilities, almost endless. Gardening, farming, raising livestock and horses, and enjoying the open space around you are just some of the many things people use their properties for. But how do you start to design a property or know if a certain property is right for you?

Continued on page 2

Winter Plant Protection

By John Rizza, Small Acreage Management Specialist, CSU Extension Western Region/NRCS

Although most people think winter is a time for dormancy for woody plants, they still need protection from a variety of issues including winter desiccation, storm damage, and browse damage to name a few.

Continued on page 3

Front Range Sustainable Small Acreage News is edited and published by Jennifer Cook, Small Acreage Management Coordinator, NRCS/CSU Extension, 57 West Bromley Lane, Brighton, CO 80601

303-659-7004 ext.3 jennifer.cook@colostate.edu

Please direct all inquiries regarding this publication to Jennifer Cook.



Colorado State University Extension and U.S. Department of Agriculture programs are available to all without discrimination. Colorado State University Extension, U.S. Department of Agriculture and Colorado counties cooperating.

Resources to Consider continued from page 1

Not to overwhelm, but here are a few thoughts to consider: Does access allow you or emergency vehicles to get to the property? Depending on your property, can emergency response times be guaranteed? What legal problems might arise if access is gained through someone else's property? Might road maintenance be an issue, especially if you have extreme weather conditions? Do you have construction access? Do you have telephone access? There are many places in Colorado where cell phones don't work. Can you obtain an approved septic system permit? Water can always be challenging. Can you obtain potable water, drill a well, or legally use any water at all? How close is electricity and what do electrical pole extensions cost? Are you prepared to live next to a farmer or rancher with noisy equipment that might run around the clock, or next to odors associated with rural animal production? Many counties have "Right to Farm or Ranch" ordinances; do you know a farmer's rights? Do you know all the pet laws? Can your dog's life be legally at risk if it decides to chase chickens or cows? Will the weeds be a problem for you to control? Can you plow the dirt or burn your ditch?

Another big thought to consider is if you'll be able to fence out other people's livestock, because be aware, Colorado has an open range law whereby it's your responsibility to keep other's livestock off your property.

Like with most large purchases or plans, the first step is always researching your options. While this task may seem daunting, it doesn't have to be, and you

should view this time as a bonding period with your property. Due diligence and knowledge of a property's maximum potential, as well as its limits and restrictions, are crucial for any plan to succeed. But fear not, there are many great resources that might be helpful.

The one-stop shop is always the local county **CSU Extension** office. Staffed with friendly and extremely knowledgeable experts, they can quickly get you pointed in the right direction. The simple comforts they offer are beneficial. You can be assured that their information is based on University research and not marketing. Their offices are simply knowledge hubs, not regulatory agencies. It's a place where questions and answers to problems are the focus and never your personal information. They also offer many services, such as soil and water testing, plant, weed, and insect identification, and countless consulting services about properties and animals. But sometimes, more than anything, the Extension office just steers you in the right direction so that you're traveling on a confident path.

Continued on page 3



Resources to Consider continued from page 2

Always another great resource is your local **NRCS (Natural Resources Conservation Service) office**. They also work for you, the private landowner, in helping you understand your property's resources (i.e. water, soil, ecosystems, and their balance). They have a tremendous website (www.websoilsurvey.nrcs.usda.gov) which you can zoom in on your property and distinguish its soil types and soil characteristics. They also can provide you with a conservation plan for your property, which can be extremely beneficial when you're looking down the road at future prosperity.

Other resources might include, but are not limited to:

- The **Sheriff's Office**, not only committed to law enforcement, investigations, and detentions, they also can be a great resource to help you understand your fencing rights or property rights.
- The **Farm Service Agency (FSA)** office, through innovative farm programs, loans, and grants, can help one with farm financial needs and income stability.
- The **Colorado State Forest Service** can help many private landowners manage their trees for defensible spaces, protection from diseases and insects, or increase overall tree health and vigor.
- The **County Planning and Zoning** department can be an enormous resource to help you understand your property's potential uses and the exemptions and regulations that might be involved.



Winter Plant Protection continued from page 1

Landowners can promote healthy growth and successful adaptation to the climates of Colorado by selecting plants that fit the environment they will be growing in. Site specific plantings will be most successful if you understand your site factors including the soil conditions, wind direction, sun intensity, and aspect. Implementing proper planting techniques at the time of installation and selecting healthy local plants that are proven to do well in your local environment will increase survivability. The



investment of time during the planning stages of a new planting area will ensure your ability to minimally maintain a thriving plant community that meets your specific needs for many years to come.

In early winter, before the soil is fully frozen, trees can still require a significant amount of moisture. Constant winds and a lack of significant precipitation events can stress trees as they prepare for winter dormancy. Providing plants with supplemental moisture is essential during dry periods while plants are dormant. Winter watering recommendations can be found by going to the **CSU Extension Fall and Winter Watering Fact Sheet**: <http://www.ext.colostate.edu/pubs/garden/07211.html>

Continued on page 4

Winter Plant Protection continued from page 3

Early and late season heavy wet snows often cause serious damage to woody plants. Implementing a pruning schedule will ensure the plants are maintained at a healthy condition and routinely inspected for subtle defects. These actions will ensure that storm damage is kept to a minimum. However, it is inevitable that limbs will break and taking the proper actions to reduce the impacts is essential.



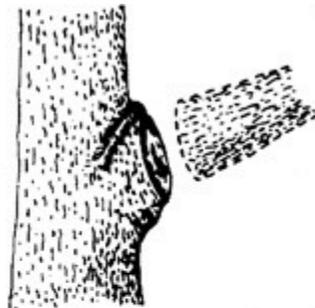
Early season heavy snow caused limbs to break off this tree.

Utilizing proper pruning techniques will ensure the plants can recover quickly. However, care needs to be taken when pruning large trees. Consulting with a Certified Arborist to complete the job may be the best option in these types of hazardous situations.

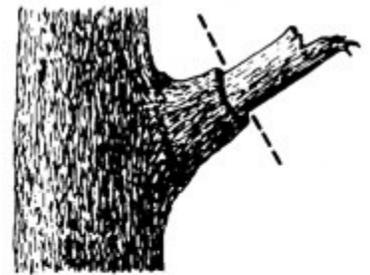
Pruning can take place at any time of the year; however, completing before spring flush has been shown to be most beneficial.

Finally, protection of plant materials from browse damage by both wildlife and domestic animals will promote survival through the winter months. Rodents are a significant cause of trunk damage as they often tunnel underneath the snow undetected to eat the green inner bark.

During fall cleanup, landowners should clear weeds and grasses from the base of the trunk. If domestic or wildlife browsing problems exist, it may be necessary to install exclusion fencing or to implement a combination of integrated management solutions to ensure your investment is protected.



Pruning cuts should be made just outside the branch collar.



On a dead branch that has a collar of live wood, the final cut should be made just beyond the outer edge of the collar

References and Further Information

Tree Care Information

http://www.treesaregood.com/treecarepruning_mature.aspx

Tree Pruning Techniques

<http://aces.nmsu.edu/pubs/h/h-156.pdf>

Quick Guide: Caring for Storm Damaged Trees

<http://csfs.colostate.edu/pdfs/111317-csfs-storm-dmgd-trees-6panel-www.pdf>

Windbreaks for Snow Deposition: CSP On-Farm Pilot Project

By Jenny Stricker, Soil Conservation Technician,
NRCS Kremmling Field Office

Carl Wood continues a tradition of conservation on his family’s ranch in the Williams Fork Valley in Grand County, Colorado. Carl and his wife Deb own and operate the Wood Cattle Co. Over 1855 acres of the Wood Ranch are high, dry, and rolling country—rangeland whose productivity might reach 1000 pounds per acre in a good year.

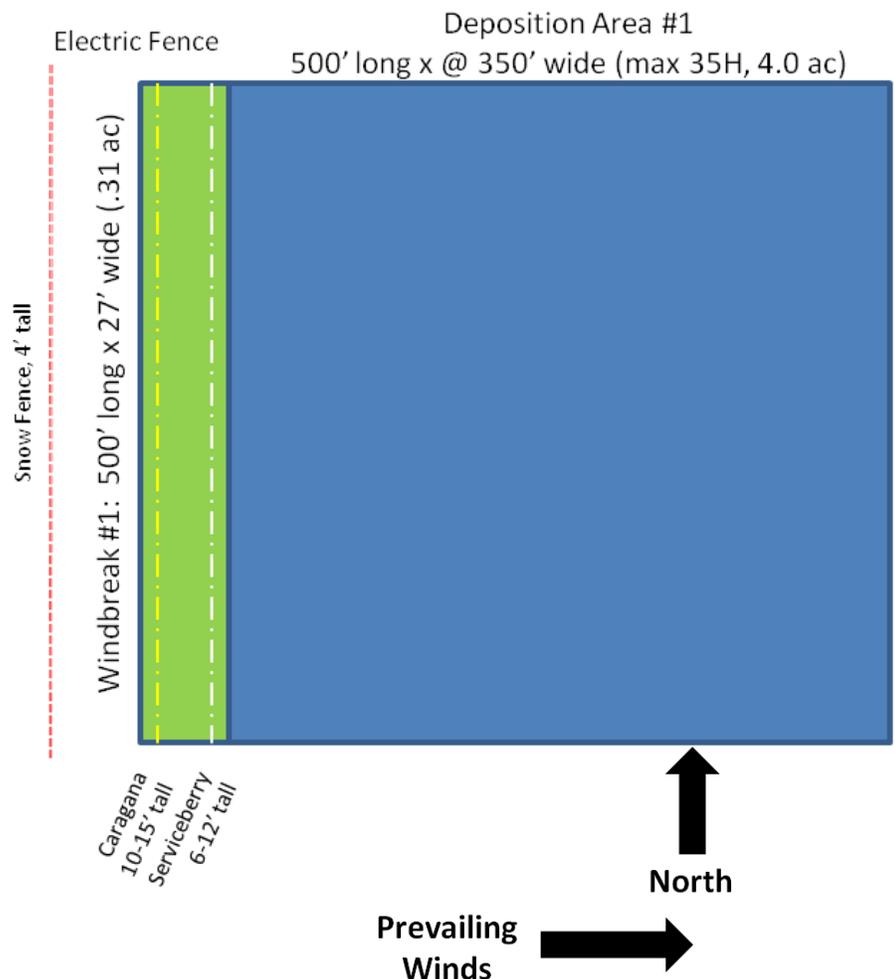
Carl has long worked to improve this productivity using careful grazing management, water development to distribute livestock impact, and brush beating to thin dense stands of sage. Carl has also applied his inventor’s mind to the problem of productivity. Many years ago, Carl realized that the native bushes that catch snow along ridgelines might be put to useful service—that these same plants, if grown in windbreaks, could deposit snow into drifts whose moisture, slowly percolating into soil, might coax some added measure of productivity to the land.

Carl waited and figured, but didn’t have the resources to test his idea. Then in 2011, Carl enrolled in the USDA’s Conservation Stewardship Program (CSP) and began an On-Farm Pilot Project coordinated by the NRCS Colorado Plant Materials Program. The goal of an On-Farm Pilot Project is to showcase activities with proven environmental benefit not widely adopted in local communities. The Wood’s On-Farm Pilot Project aims to test the efficacy of native plant materials and other strategies in establishing windbreaks for snow deposition on remote rangeland sites.

This October, the Woods contracted with Victor Mendoza, experienced landscaper

based out of Greeley, to install the windbreaks. In less than a week, working dawn to dusk and through sleet and sunshine, Victor and his crew harvested 124 native serviceberry bushes from the Wood Ranch and transplanted these same bushes into 1000-feet of windbreak. Bushes ranged in size from 3 to 10 feet high. Next spring, the Woods will finish planting the second row of the windbreak—Caragana and Rocky Mountain Juniper from the Colorado State Seedling Tree Nursery.

The Woods’ commitment to this project shines through—from conception, to planning, to implementation. And, though you might measure success in terms of surviving trees, drifted snow, or added productivity, in some ways the best measure of success is Carl Wood himself. His experience, know-how, and “Get-‘er-done” common sense deliver a potent message: Take an interest, take a chance, and try something new.



Improving Land for Pheasant and Other Grassland Birds

By Noe Marymor, Biologist, USDA-NRCS

We've all done it. While scouting for that golden field to hunt in, we see an old CRP (Conservation Reserve Program) stand of dense smooth brome, sideoats grama or little bluestem and pass it up for that diverse field of grasses and flowers where we know the birds are hunkered down. Aging CRP fields provide a way to control soil erosion, but many of these fields are not the best upland bird habitat. Disturbance is what keeps grass stands diverse and productive, but many CRP fields have gone through their whole contract life unmanaged and untouched. In fact over half of all CRP fields nationwide are 11 years old or older. With time and lack of management, these fields become dense, monotypic stands of grass that are poor wildlife habitat.

Monotypic grass stands are poor upland bird habitat for several reasons, the first of which is a problem of flowers and insects. Flowers, called forbs in biologist lingo, provide the food that insects need to grow and reproduce.

Those insects, in turn, provide a critical protein source for pheasant chicks, grassland birds, and other wildlife. The second problem with older, monotypic grass stands is that the grasses can become so sodbound and dense that pheasant

chicks, which are by no means herculean, aren't able to push through the grass to move around in the field. Chicks need some amount of bare ground to be able to walk freely in a CRP field.

Fortunately, there is much that can be done to restore older CRP fields to quality upland bird habitat. In Colorado, the Farm Service Agency has approved light discing, interseeding, and



CRP field



Pheasant chicks

prescribed burning as tools to rehab older CRP. Depending on the condition of a CRP field, one or more of these tools may be appropriate. For more information on improving your old CRP stand, contact your local Natural Resources Conservation Service Office or your local NRCS Private Lands Wildlife Biologist—Noe Marymor, Biologist at (970) 330-0380 x 207 or noe.marymor@co.usda.gov.

Conservation Reserve Program (CRP) is a USDA program which takes farmland out of production in order to reduce soil erosion. **For information on CRP**, review the [Farm Service Agency \(FSA\) CRP factsheet](#) or contact your local USDA-FSA office.

Grow Hops in Colorado

By Jennifer Cook, Small Acreage Management Coordinator, CSU Extension/NRCS

The hop plant (*Humulus lupulus*) is a vigorous climbing herbaceous perennial which produces female flower cones called hops. Plants are dioecious which means there are separate male and female plants but only the female plants are grown commercially. Hops are used for flavoring beer and other beverages, as well as in herbal medicines. With the abundance of home brewers and microbrewers in Colorado, locally grown hops are in high demand.

Hops can be grown on a small or large scale and are very labor intensive.

The initial investment includes purchasing hop transplants (once planted, can produce for up to 50 years), trellis and irrigation infrastructure (if planning less than 5 ac, initial capital investment is currently between \$25-30,000 per acre), and a harvesting and drying plan. Hops must be dried before being stored. Full production is not reached until 3rd or 4th production year, depending on when you plant.

Ron Godin, Tri-River Area Agronomist for CSU Extension in Delta warns, "If you are planning larger than a backyard scale operation, be aware that hops production is capital, labor and time intensive and you must have the resources necessary and a plan in place prior to beginning or you will be opening yourself to failure on a large scale. Larger than a ½ acre "hobby" operations are not for the faint of heart or those not willing to do their homework or put in their time learning hops production. Hops production is not rocket science, HOWEVER, there

are lots of steps and procedures involved to producing a high quality hop that brewers want to purchase in quantities that make profits."

Start your hop yard by purchasing hop plants (potted rhizomes). Please DO NOT use rhizomes from the northwest because there are many diseases in northwest hops that are not in Colorado hops, and we'd like to keep it that way!

Continued on page 8

Hops continued from page 7

Search online for local hop growers.



Hop rhizomes

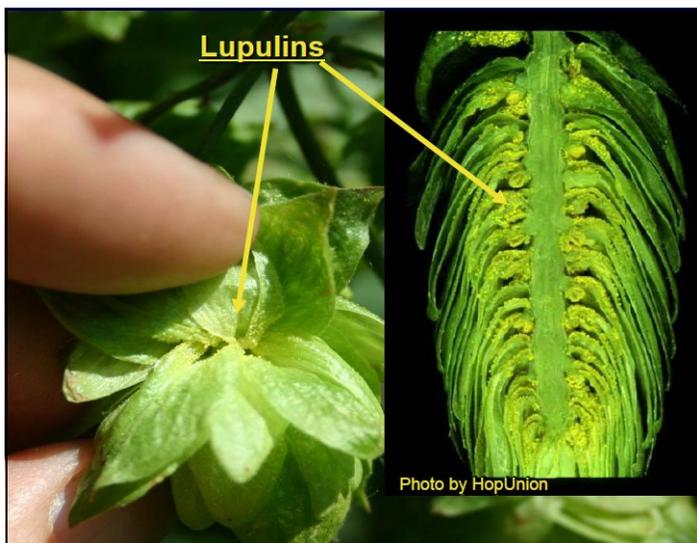


Organic hops growing for variety trials at CSU.

Summit Plant Labs has disease free tissue culture plantlets which you can use to get your crop established. Contact them at <http://www.plantlabs.com/>

Build a trellis with poles, a top wire, and strings for the bines to grow up. Take a soil test and fertilize as needed (visit CSU Soil Water Plant Testing lab at <http://www.soiltestinglab.colostate.edu/>).

Plant hop plantlets into healthy soil and allow 10-20 feet of unobstructed vertical space. It will take 3-4



Hop cones contain lupulins which produce flavor and aroma.

years for plants to produce full yields. Hop plants produce annual stems from a perennial, below soil surface crowns. Choose a few vigorously growing vines from each crown to trellis. Keep the other vines pruned at the base. One to three vines can be trained to climb up each string.

Irrigation is also needed. Hops like moist soil, not wet. Yellowing leaves is an indicator of overwatering.

Hops are harvested in the fall once a year. Prime hop picking conditions usually lasts only 5-10 days so it is best to grow various varieties to extend the harvest season. Small-scale harvesting is possible

Not into beer? Hops can also be used medicinally. Because of its bitterness, hops can be used as a digestive aid. It is also known to be used as a sleep aide or to reduce anxiety. Make a sachet with hops and use the aroma to soothe you to sleep. Try brewing a cup of hops tea to help you digest dinner or relax in the evening.



but time consuming. One plant can be harvested by hand in an hour or less, whereas harvesting equipment is needed on larger scales. A used Wolf harvesting machine is currently running about \$30,000. Mechanical equipment will strip the hop cones from the bines, and remove debris.

After harvesting, hops must be dried and often pelletized (depending on the needs of the brewer). Commercial processors use a heated air circulator called an oast. Oasts can be purchased or built.. Driers can be DIY for less than \$2000 per acre. Home-scale drying can also be done on a simple screen drying structure. Processing (harvesting and pelletizing) is very expensive, but the costs could be shared in a CO-OP or privately owned processing facility.

CSU's Specialty Crops program did some trials with hops. They list hop varieties, planting, growing, and harvesting methods on their website at http://www.specialtycrops.colostate.edu/scp_exp_demo/hops.htm

Frank Stonaker, CSU's Specialty Crops Program Director in Fort Collins notes, "CSU did all the processing by hand, which is doable for small operations, but very time consuming. Before you get started, I would make sure you have a plan in place for processing and selling the hops. I know Coors is interested in buying local hops and may even have access to processing facilities. Also local micro-breweries want local "high quality" hops and

Hops continued on page 9

Hops continued from page 8

some brewers will even take green hops (freshly picked and not pelletized), but this would have to be lined up ahead of time.” Green or wet hops must be at the brewery within 12 hours of harvest.

The Colorado Hop Growers Association holds annual hops production seminars in the spring and summer each year: http://www.coloradohopgrowers.com/Colorado_Hop_Growers/Home.html

Additional Resources:

Colorado Hops Industry Finding Its Stride, Northern Colorado Business Report, August 26, 2011
<http://www.ncbr.com/article.asp?id=59382>

Hop Trellis and Budget info at <http://soilcrop.colostate.edu/godin/index.html>

CSU Hop Variety Test in Western Colorado
http://www.specialtycrops.colostate.edu/grower_grants/2002/2002_gg_hops.htm

CSU Organic Hops Variety Trials and Over-wintering Study
http://www.specialtycrops.colostate.edu/scp_exp_demo/hops.htm

Hops Medicinal Uses and Properties
<http://www.wildcrafted.com.au/Botanicals/Hops.html>

Alternative Field Crops Manual, University of Wisconsin-Extension and University of Minnesota
<http://www.hort.purdue.edu/newcrop/afcm/hop.html>

Funding Assistance for Farm Practices

Natural Resources Conservation Service (NRCS) is now accepting applications for cost-share assistance on establishment of seasonal high tunnels, organic production practices, and other conservation practices through the Environmental Quality Incentives Program (EQIP).

Who's Eligible?

- Landowners or farmers who are engaged in farming or who have a financial interest in farming; and
- Who have produced at least \$1,000 in agricultural products.

What land is eligible?

- Land that has already been in agricultural production (agricultural land and private forest land).

Continued on page 10



Installation of a seasonal high tunnel will extend the growing season.

What can be funded?

- Seasonal high tunnels are polyethylene-covered structures, at least six feet in height, and are constructed of metal, wood, or plastic bow frames. The seasonal high tunnels may modify the climate to create more favorable growing conditions for vegetables and other specialty crops grown in the natural soil beneath it. The natural resource benefits from using these tunnel structures may include improved plant, soil, and water quality. Participants will be required to submit annual reports for three years to assist NRCS in evaluating high tunnels as a conservation practice.
- NRCS helps certified organic growers and producers working to achieve organic certification to install conservation practices for organic production. Organic practices such as cover crops, crop rotations, and manure management are eligible for cost assistance.
- Practices which reduce soil erosion, improve water quality, reduce water use, and relate to energy reduction. Some examples are improving irrigation systems to be more efficient, implementing rotational grazing, forest stand improvement, and agriculture energy audit.

For more information contact your local NRCS office.

<http://offices.sc.egov.usda.gov/locator/app>



Home Energy Efficiency Webinar: Cost Effective Improvements for CO

December 14, 2011 from 12:00 to 1:00 pm MT

Learn how energy is used in Colorado homes, where easy savings can be found, and what energy improvements might make sense for your home. Presented by Cary Weiner, CSU Extension Clean Energy Specialist.

To register go to https://docs.google.com/spreadsheet/viewform?hl=en_US&formkey=dGFubENBX0FZUVJ5VmZqSzBNVDctNGc6MQ#gid=0

Registration links can also be found under Hot Topics at www.ext.colostate.edu/sam

Small Wind Energy Basics Webinar

January 11, 2012 from 12:00 to 1:00pm MT

In this webinar, you will learn about the basics of wind energy, including how to determine whether you have a good wind resource, and how to site a turbine. As well, cost and paybacks of wind energy will be discussed. Presented by Irene Shonle, CSU Extension Gilpin County Director.

To register go to https://docs.google.com/spreadsheet/viewform?hl=en_US&formkey=dFJjcXdHVk16bzZLbmRYbIA2c1R4LVE6MQ#gid=0

Registration links can also be found under Hot Topics at www.ext.colostate.edu/sam

Visit CSU Small Acreage Management website for more events at www.ext.colostate.edu/sam/



Colorado State University Extension and U.S. Department of Agriculture programs are available to all without discrimination. Colorado State University Extension, U.S. Department of Agriculture and Colorado counties cooperating.