

LARAMIE COUNTY MASTER GARDENERS

# GARDENING NEWS

LETTER FROM YOUR PRESIDENT

OCTOBER, 2006

Hello Master Gardeners! Well we've made it to harvest time and I'm sure you are all enjoying the fruits, or vegetables, of your labor this summer. I know I'm enjoying the much cooler temperatures and look forward to the snow flying very soon! But for now I'm prepping my garden beds and of course waiting ever patiently for my bulbs to arrive so that I have something new to look forward to this spring.



There have been so many wonderful things happening this past year with the Laramie County Master Gardener group that I want to extend my thanks to everyone who was part of this success!! I would like to welcome all of our new Master Gardeners to our group and am looking forward to their graduation on November 18<sup>th</sup>!! This fall we are starting a new project with a pre-pay tree sale. We've been in contact with both the Botanic Gardens and Laramie County Conservation District who were very pleased that we have decided to take this on. Please keep your eyes open on our website for the list of trees and the order form. Speaking about our website, have you looked lately? If not take a quick look around [www.laramiecountymastergardeners.com](http://www.laramiecountymastergardeners.com), Wanda Manley has done a great job of putting this together and keeping it up to date on the latest happenings with the LCMG.



I'm looking forward to seeing all of you at our Annual Meeting, Awards Ceremony as well as Graduation for our new Master Gardeners. This year we have a great speaker, Merle Moore, who will be focusing on ornamental grasses. Like last year, the main entrée and desert will be catered. Please bring a salad or side dish to share with the group. This year we will be at St. Mark's Episcopal Church (corner of 19<sup>th</sup> and Central), November 18<sup>th</sup> from 11-3pm. I look forward to seeing all of with your families. Happy Gardening, *Shelley Hood*

## Some interesting Numbers from Karen Panter PhD, UW, Horticulturist

\*Abstract from Article in HortTechnology: 'The Economic Impact of the Green Industry in the United States' by Charles R. Hall (University of Tennessee), Alan W. Hodges (University of Florida - Gainesville), and John J. Haydu (University of Florida - Apopka), HortTechnology, 16(2):345-353, April - June 2006.

"The United States environmental horticulture industry, also known as the Green Industry, is comprised of wholesale nursery and sod growers; landscape architects, designers/builders, contractors, and maintenance firms; retail garden centers, home centers, and mass merchandisers with lawn and garden departments; and marketing intermediaries such as brokers and horticultural distribution centers (re-wholesalers). Continued on page 7

# WINTER BIRD FEEDING

BY BARB GORGES

The view of your dormant garden can be livened up with birds. Even after the insect-eating species migrate south, there are still a lot of seed and fruit eaters you can attract to your yard.

Although many people feed year round, the cold months are when the birds are more likely to be interested in the food and water you put out and the shelter provided by your landscaping.

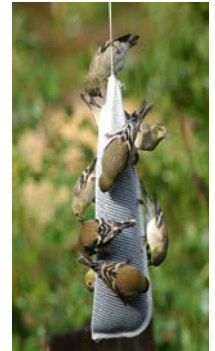


## **Black oil sunflower seed**

If you can put out only one food, put out black oil sunflower seed. It is more nutritious than the striped kind and attracts the largest variety of birds. However, the seed hulls can be messy and eventually will kill off the grass under your feeder or stain your patio. Already hulled sunflower seed is available, though expensive. But if you plant your feeder in a patch of garden, the birds will plant a nice mass of sunflowers and late next summer you can watch goldfinches hang on the heads while extracting seeds.

## **Niger thistle**

This seed will not sprout in Wyoming, say purveyors. The seed is very fine and requires special feeders with small feeding ports just right for goldfinches and pine siskins. Otherwise, the seed will pour out and gluttonous house sparrows will eat all of this expensive stuff.



## **Other seed**

A variety of other seed can be found in mixes sold locally, however, you'll find our birds don't care much for a lot of them. One exception is safflower, which the mourning doves like, but they won't be back until spring. Try peanuts for attracting blue jays and squirrels.

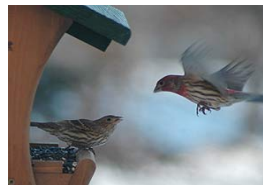
## **Suet**

Birds such as woodpeckers and nuthatches like to inspect tree bark for frozen insects so they consider suet a bonanza. Sometimes our winter days get too warm and it will get rancid, or the squirrels will make off with it. The packages available at feed stores are a little more convenient to find and handle and they fit in special hanging cages.



## **Fruit**

There are always a few robins to be found all winter long. If you have any fruit left on your trees and shrubs, you may be lucky enough to see them or Bohemian and cedar waxwings. Putting out raisins and pieces of oranges and apples can get expensive and may attract unwanted flocks of starlings and crows. Continued on page 3.....



The photos are from Project FeederWatch. participants.  
American Goldfinches on thistle sock--Leora Worthington  
Blue Jay perched in tree--Anne Middleton <http://www.birds.cornell.edu/pfw/>

- Fallen leaves make good compost.
- The mower chops leaves and gives the grass a last trimming.
- Early fall is best for planting many perennials, and all spring-blooming bulbs.
- Trees, shrubs and bulbs can be planted as long as the soil is unfrozen cultivate the soil and mulch for winter .
- Strong roots + correct plant location and application = good growth and hardy life.
- Garden mums and asters are anchor plants for the fall garden. They will carry the garden through to winter with rich colors of purples, maroon, pinks, gold, and white.

# Just for Fun



Americans consume 17 billion quarts of popped popcorn annually or 54 quarts per man, woman and child. It is one of the most wholesome and economical foods available.

Approximately 70 percent is eaten in the home (home popped and pre-popped) and about 30 percent outside the home (theaters, stadiums, schools, etc.). Un-popped popcorn accounts for approximately 90 percent of sales for home consumption.

Major popcorn producing states are Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Missouri, Nebraska and Ohio.

The peak period for popcorn sales for home consumption is the fall. Sales remain fairly high throughout the winter months then taper off during the spring and summer. Popcorn is a popular snack with all age groups.

Native Americans brought a bag of popped corn to the first Thanksgiving. A common way to eat popcorn at that time was to hold an oiled ear on a stick over the fire, then chew the popped kernels off it. Natives throughout the Americas also made a popcorn beer. Some made popcorn soup.

Continued from page 2

## Feeders

Most winter birds, especially the ground-feeding dark-eyed juncos, will eat seed spread on the ground or on an open platform. Tube or hopper feeders, whether they are on a pole or hanging, are popular. Feeders don't need to be elaborate until squirrels find them. But it is important to keep feeders clean. Washing with a bit of bleach solution every few weeks, depending on how many birds you feed, will prevent bird deaths due to disease. You should take precautions yourself when handling dirty feeders.

## Locating feeders

Set feeders near a good viewing window so you can enjoy them, but maybe 10 feet away so there are fewer birds colliding with the glass. Provide nearby cover for when the sharp-shinned hawk cruises by, but not close, low cover where the neighbor's cat can set up an ambush. Keep your own cat indoors.

## Water

Almost more attractive than food is open water—for drinking and bathing. Birdbaths with heating elements are nice, but for years our family used a plastic garbage can lid upside down, filling it with a teakettle of hot water in the morning. When the water froze, we popped out the giant ice cube.

## Learn more

Check the public library or visit the Project FeederWatch site, [www.birds.cornell.edu/pfw](http://www.birds.cornell.edu/pfw), for more information about birds and bird feeding. Consider participating and adding your backyard observations to the scientific knowledge about where birds spend the winter.



← Feeding station using soda bottles strung on a line to keep squirrels off of the feeders. Kathie Brown, of Layton, Utah.

# GARDENING CHALLENGE, GROWING STEVIA by Kathy Bond Borie

Herbs are clever plants. Just in case their good looks aren't enough to pique our interest, they offer something extra, such as unique flavorings or scents. One herb, *Stevia rebaudiana*, goes a step further by appealing to our sweeter side. This plant packs so much sweetness into its leaves that they can be used in place of sugar, and plant extracts are commonly used as sweeteners in Japan, China, and South American countries. One dried leaf, ground, is 10 to 15 times sweeter than an equal amount of sugar, and powdered extracts made from the leaves are up to 300 times as sweet — without the calories.



Stevia is a semitropical perennial shrub of the daisy family, native to the mountains of Brazil and Paraguay. The people there have used it for many centuries as a sweetener. Stevia first came to the attention of Europeans in the 1800s, yet it remained relatively obscure until it was planted and used in England during the sugar rationing of World War II. Japan took up research into stevia's potential after the war and remains a major grower of and market for the sweetener. There, it is approved for use in many food products, including cereals, teas, and soft drinks. Stevia is also grown in South America, Canada, Europe, Australia, China, and the United States.

The U.S. Food and Drug Administration banned the sale of stevia products in 1991, but three years later approved their sale as "dietary supplements." In FDA jargon, dietary supplements can carry claims of providing health benefits, but they cannot be marketed as conventional foods or food additives. Thus, stevia cannot be sold for use as a tabletop sweetener, which is considered a conventional food, or as a sweetener in teas or other products. Nonetheless, people can buy stevia powder and use it in place of sugar at home.

The substances responsible for the plant's sweetness are chemicals called glycosides, primarily one dubbed stevioside, which are concentrated in the leaves. These and other related chemicals are at their peak just before flowering, which is triggered by the shorter days of late summer and early fall.

## Growing Stevia

In the wild, the plant grows in infertile, moist, sandy soil near streams and marshes. It reaches a height of about 2 feet (up to 3 feet in cultivation), with many branches and attractive, slightly serrated, opposite leaves. The pretty flowers are tiny and white with a pale purple throat, but they must be pinched off or they will steal sweetness from the leaves.

Stevia likes heat and can be grown as a perennial in frost-free areas. Elsewhere, the best approach is to treat it as an annual herb such as basil. For best results, plant stevia in the garden for the summer, harvest the fresh leaves before flowering, and dry them for later use.

Transplants can be ordered from a mail-order nursery in the spring and planted in the ground when the soil temperature reaches about 65°F. A sandy loam with a slightly acid to neutral pH and good drainage is important. If your soil is heavy clay or otherwise slow-draining, plant in a raised bed or container filled with lightweight soil mix. (Because the stems tend to be brittle, group plants close together so they can help each other withstand winds and rain.)

Stevia has a temperamental nature that is often reflected in slow growth when the plants are first set out. After the first month, they pick up speed. They're not picky about fertilizer; any general liquid fertilizer, such as a 20-20-20, applied once a month during the summer will do. Pruning and pinching encourage bushy plants. Always pinch off flowers in order to produce the sweetest leaves.

When fall arrives, it's time to harvest the leaves. Pull up the plants in the early morning and remove the leaves, then dry them in the sun for about 24 hours. When crispy dry, the leaves can be stored in a plastic bag or airtight jar. They can be ground easily in a mortar and pestle or in an electric spice or coffee grinder. Cont pg 6

# GENE SECRETS OF THE TREE REVEALED

The first tree to have its full DNA code un-raveled is a poplar.

The genome of the black cottonwood (*Populus trichocarpa*) was sequenced in a four-year international project led by US institutions. The work, reported in Science journal, shows the poplar tree has far less DNA in its cells than humans or other mammals, but twice the number of genes. Researchers say the new information will be a boon to the understanding of plant biology and evolution.

The forestry industry also expects the genomic data to help it improve the yield and quality of its products, such as bio-ethanol. "Under optimal conditions, poplars can add a dozen feet of growth each year and reach maturity in as few as four years, permitting selective breeding for large-scale sustainable plantation forestry," said Dr Sam Foster of the US Forest Service. "This rapid growth coupled with conversion of the lignocellulosic portion of the plant to ethanol has the potential to provide a renewable energy resource along with a reduction of greenhouse gases."

Trees are a dominant feature on planet Earth. Forests cover some 30% of the world's land area, accommodate two-thirds of life on Earth, and are responsible for 90% of the biomass on solid ground. Poplars themselves are thought to cover more than 75 million hectares worldwide. The tree was chosen for sequencing because of the comparatively small size of its genome - it has "just" 485 million base-pairs, the DNA "letters" that make up the genetic code. This is about 50 times fewer base-pairs than a pine tree. On the other hand, the poplar has four times as much DNA as *Arabidopsis thaliana*, the tiny cress which in 2000 became the first plant to have its genome cracked.

The research team has identified more than 45,000 possible genes - humans and other mammals such as mice and dogs have a little over 20-25,000 genes. By comparing the poplar information with that of *Arabidopsis*, the team has been able to show the two organisms split from a common plant ancestor about 100 to 120 million years ago. The analysis shows that for about 10% of the poplar genes there are no comparable genetic units in *Arabidopsis*. It also reveals the poplar has increased the size of its genome at least twice in its evolutionary history. This expansion would have freed up many duplicated genes to acquire functions important for trees, such as wood formation.



As well as answering specific questions about trees and plants in general, the new information is expected to have industrial implications. The research team discovered 93 genes of the poplar associated with the production of cellulose, the building blocks of plant cell walls. Cellulose, the most abundant organic material on Earth, can be broken down into sugar, fermented into alcohol, and distilled to produce fuel-quality ethanol. Continued page 6

The University of Arkansas and the Arkansas Master Gardeners will be hosting the *International Master Gardener Conference*, at Little Rock, Arkansas, May 2-5, 2007. Early registration runs until December 31, 2006. The final date to register is April 1, 2007. All information can be viewed on the website at <http://mg2007.uaex.edu/>

Continued from page 4.....

### Using Stevia

The Japanese have been using stevia to sweeten products since the 1970s, and plant extracts are now found in candy, ice cream, pickles, soft drinks, teas, and other foods. The herb also had great potential for use in this country a decade ago. Major food companies such as Thomas J. Lipton and Celestial Seasonings were developing products containing stevia. Those efforts screeched to a halt when the FDA temporarily banned the importation of stevia products in 1991.

Stevia is also purported to do more than sweeten foods. It's touted as helping to fight tooth decay and gum disease by inhibiting bacterial growth. It has been investigated as a blood sugar regulator for people with diabetes and hypoglycemia. Because stevia contains virtually no calories, it could have potential for use in weight-loss diets. However, none of these uses has been approved in the U.S., and controversy surrounds them as well as stevia's potential role as a sugar substitute.

### Rose Hip Jelly

Take one pint of rose-hips and peelings from two tart apples; cover with water and cook until tender. Crush and let drip through thin muslin bag for clearness. Measure two cups of juice and add two cups sugar and bring to the boiling point. Add 1/2 cup lemon juice and boil briskly for 12 to 15 minutes. Test for jell after 10 minutes, if boiled too long it will toughen. (Never make more than two cups at one time.) ROSE JELLY (Mrs. Lewis H. Friedman, Rochester, New York)



### ROSE PETAL ICE CUBES

Boil together for five minutes, two cupfuls water and 1/2 cupful sugar. Pour this over 1/2 cupful finely minced sweetbriar rose leaves. Cool, add juice of three lemons. Strain, color light green. Freeze in cubes, use in fruit drinks and herb teas.

**Trees** continued from page 5...

"Biofuels are not only attractive for their potential to cut reliance on oil imports but also their reduced environmental impact," said Dr Gerald Tuskan, the lead author of the Science report. Biofuels emit fewer pollutants than fossil fuels such as gasoline. In addition, poplar and related plants are vital managers of atmospheric carbon. Trees store captured carbon dioxide in their leaves, branches, stems, and roots.

"This natural process provides opportunities to improve carbon removal from the air by producing trees that effectively shuttle and store more carbon below ground in their roots and the soil," the Oak Ridge National Laboratory scientist said. And Dr Stephen DiFazio, from the Eberly College of Arts and Sciences at West Virginia University, added: "The genome sequence is already having a profound impact on forest biotechnology research.

"This is greatly accelerating the discovery of genes that control many different aspects of forest tree biology, and is paving the way for marked improvements in forest plantation productivity that could rival those of the 'green revolution' in agriculture." The poplar genome project was led by the US Department of Energy's Joint Genome Institute (DOE JGI) and Oak Ridge National Laboratory (ORNL), uniting the efforts of 34 institutions from around the world.

Story from BBC NEWS: <http://news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/5348438.stm>

Numbers continued from page 1

Environmental horticulture is one of the fastest growing segments of the nation's agricultural economy. In spite of the magnitude and recent growth in the Green Industry, there is surprisingly little information regarding its economic impact.

Thus, the objective of this study was to estimate the economic impacts of the Green Industry at the national level. Economic impacts for the U.S. Green Industry in 2002 were estimated at \$147.8 billion in output, 1,964,339 jobs, \$95.1 billion in value added, \$64.3 billion in labor income, and \$6.9 billion in indirect business taxes, with these values expressed in 2004 dollars. In addition, this study evaluated the value and role of urban forest trees (woody ornamental trees); the total output of tree production and care services was valued at \$14.55 billion, which translated into \$21.02 billion in total output impacts, 259,224 jobs, and \$14.12 billion in value added."

So where does **Wyoming** fit in the big picture? Our output impact for all sectors of horticulture (production/manufacturing, horticultural services, and trade) was **\$174 million**. Number of jobs? **2,581** for all sectors. Value added impacts? Another **\$109 million**. Not bad for only half a million people!



## BARE ROOT TREE AND SHRUB SALE

The Laramie County Master Gardeners are having a prepay bare root tree and shrub sale this fall, this is for Master Gardeners only. Orders taken now will be delivered in April 2007. We will be using Lawyer Nursery, located in Plains, Montana as our sole supplier. Their web site is [www.lawyernursery.com](http://www.lawyernursery.com), a Lawyer's catalog will also be available in the Extension Office.



Please read the plant description carefully, if you are not sure whether a tree or shrub will grow in Cheyenne call Catherine at the Extension Office or do some additional research if needed, even if a plant is listed as a zone 4 it may not be suitable for our area.

You must order in the lot numbers indicated on the Lawyer Nursery web site. We will not split bundles, or even better, find someone to split a bundle with you. Typically bundles come in lots of 5, 10 or 25 plants. The cost will be the price listed plus 25% of your total for the shipping cost.

An order form is located on the Master Gardener web site, [laramiecountymastergardeners.com](http://laramiecountymastergardeners.com) Make your selections and drop the completed form and a check off at the Laramie County Extension Service office before December 1, 2006. Some selection may not be available when we place the entire order. If that is the case, we will refund your money immediately. If you have more question send an email to [lcmastergardeners@gmail.com](mailto:lcmastergardeners@gmail.com) or call Catherine at 633.4383.

Bare root tree and shrub care tips.....

When planting bare-root material, be careful not to plant too deeply. Place each in the planting hole so that the root highest on the stem is just below the finished soil level. It's advisable to plant each plant on a small mound of soil, created in the center of the planting hole, and spread the roots evenly down the sides of the mound. This will slightly elevate the plant and guard against root and crown rot. Do not bend roots to make them fit into the planting hole. Instead, dig the planting hole wider, or as a last resort trim the long root back to fit into the planting hole. Restore moisture to bare-root trees and shrubs before planting by soaking the roots in a bucket of water for a few hours, but no longer than overnight.

Take care not to allow the roots to dry out during planting. Water each plant immediately after planting to firm the soil around the roots and remove any pockets of air that might exist in the soil. Good follow-up care is important to assure establishment of the new plants



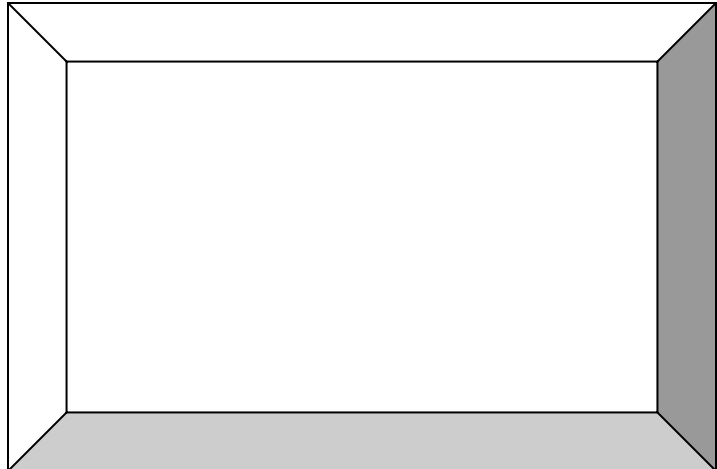
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- *To all Master Gardeners, you are invited to  
the Annual Master Gardener Meeting,  
Graduation and Awards Banquet.*
  - • *This years guest speaker is Merle Moore,  
he will be speaking on Ornamental Grasses.*
  - *At Saint Mark's Episcopal Church, located at Central and  
19th downtown Cheyenne.*
    - *Saturday, November 18 from 11:00 am to 1:00 pm.*
      - *Please bring a salad to pass.*
      - *The main entree and dessert will be provided for.*
  - *Husbands, Wives, Family, and significant others are welcome to attend.*
- Please R.S.V.P to Mary at 633.4383.*
- Great door prizes to be given away.*