

# Plant Science Says



Happy  
4<sup>th</sup> of July!

July, 2007

## New Faculty Member



Dr. Li Huang has accepted the position of Assistant Professor of Plant Genetics. She will be starting her new position on August 16. Dr. Huang is originally from Nanjing, in the Jiangsu province of China and

received her M.S. and Ph.D. degrees from the Department of Plant Pathology, Kansas State University. Her passion about science is to understand molecular mechanisms of host-pathogen interaction and to help farmers grow healthy crops.

In her free time, she enjoys hiking, fishing, gardening and cooking.

Welcome Dr. Huang!

## Association of Official Seed Analysts and Society Commercial Seed Technologists Joint Annual Meeting

Bill Grey was an invited speaker to the Seed Pathology Workshop during the Annual Meeting of the Association of Official Seed Analysts and Society Commercial Seed Technologists in Cody, Wyoming June 5-11. There were about 350 in attendance at the workshop. Bill and Harold Armstrong (former Seed Lab manager and now with Monsanto Corp.) gave a presentation on "The Role of Seed Analysts in the Management of Scab Disease".

In addition, Norm Weeden gave a talk on "Recent Developments in Molecular Markers" and Luther Talbert gave a talk on "Wheat Applied Genomics," as part of the New Technology Workshop.

## Fasciation

This Oxeye Daisy from Lewistown arrived at the Disease Clinic last month. It is a prime example of Fasciation. Fasciation is a condition of plant growth in which the apical meristem,



normally concentrated around a single point, producing approximately cylindrical tissue, becomes elongated perpendicularly to the direction of growth, producing flattened, ribbon-like, crested, or elaborately contorted tissue. The phenomenon may occur in the stem, root, fruit, or flower head.

## Montana Wheat And Barley Grants

Tom Blake, "Developing Improved barley Varieties for Montana Farmers and their Industries."

Phil Bruckner, "Winter Wheat Breeding/Genetics."

Phil Bruckner, "Enhanced Field Selection for Wheat Stem Sawfly Resistance."

Mary Burrows, "Addressing Plant Disease and Communication Needs in Montana."

Alan Dyer, "Managing Root Disease for Montana's Wheat."

Bill Dyer, "Alternative Strategies for Controlling Herbicide-Resistant Wild Oats."

Mareike Johnston, "Development of Germplasm in Winter and Spring Wheat with Resistance to Newly Developing Races of Stem Rust."

Deanna Nash, "Improved Quality of Montana Hard Red and Hard White Wheat."

Jack Riesselman, "Montana Ag Live!."

Jamie Sherman, "Marker Assisted Breeding in Spring and Winter Wheat."

Luther Talbert, "Spring Wheat Breeding and Geentics."

### **Research and Commercialization Grants**

Victoria Carollo, Jan Bowman, Tom Blake  
"Identifying Genes Conferring Enhanced Cellulosic Ethanol Production Potential for Barley Straw and Forage." This project is a collaboration of plant and animal scientists at Montana State University that involves three major goals: 1) to identify barley genes within the 1,917 members of the USDA Spring Barley World Core Collection that will contribute to improvement of barley straw and forage as a feedstock for cellulosic ethanol production; 2) to determine if a correlation exists between rumenal fermentation (i.e. breakdown of forage or straw within the rumen of a cannulated cow) and *in vitro* enzymatic treatment of barley with commercially available enzymes; 3) to determine if a new statistical method called 'association analysis' is a sufficiently robust technique to identify useful genes merely by sampling a wide array of barley accessions in the World Core Collection rather than going through the lengthy process of producing a barley population that segregates for a gene of interest. We will also provide estimates of the relative value of barley forage and straw as cellulosic ethanol feedstocks and will contrast barley with the favored perennial grasses of the U.S. Dept. of Energy (DOE), switchgrass (*Panicum virgatum*) and several species of the *Miscanthus* genus, neither of which have agronomic value beyond the potential to produce biofuel. As a result of this effort, we will produce barley varieties with more fermentable straw and superb grain quality that should increase profit potential for Montana barley growers.

### **Publications**

Banowitz, G. M., M. D. Azevedo, H. M. El-Nashaar, R. C. Martin, and R. G. Stout (2007) Temperature-induced increase in cellular chelating potential associated with reduced thermotolerance. *J. Thermal Biology* 32:12-19.

### **Bob's Byte**

#### **By Bob Johnston**

##### Recently Opened File List

All programs in MSOffice (and many other programs) keep a list of recently opened files.

These are found at the bottom of the File menu. To open a file that you had opened recently, just click on the name.



It's a great convenience if you open the same file over and over. Any file you need to edit or change is found in the list.

By default, Office programs keep only the last four items in the list. Make the list more useful by expanding it to the last nine items you've opened. To expand the list, go to Tools, and choose Options. Click the General tab and locate the Recently Used List. Change the number to 9 and click OK.

NOTE: The list only expands as you open more files.

Keep in mind that the file remains in the list if it was opened recently. To get it off the list, you must open nine more things. The oldest is removed from the list to make room for the newest.

If you rename, move, or delete a file found in the Recently Opened file list, you will receive a message indicating that the file was not found. It's just a list of shortcuts. If you move the file it points to, it is not updated.

##### Auto Numbering in Word

Word's Auto Numbering can be a useful tool, though sometimes users find it annoying. Get Auto Numbering under your control! Turn it on when you want it and turn it off when you do not.

When you begin a list by typing "1." (without the quotes), pressing the space bar or tab key, and then typing some text, Word automatically converts the paragraph to a numbered list when you press ENTER to end the paragraph. The

next paragraph is automatically indented and begins with "2."

This is OK if you want a sequentially numbered list. But sometimes you may have a list that is not sequential. Or you may not want Word to number or format the list for some other reason.

To turn off Auto Numbering, go to the Tools menu and choose the Auto Correct option. When the Auto Correct dialog box appears, click the tab called "Auto Format As You Type". Remove the check mark from the box labeled "Automatic Numbered Lists." (You can also remove the check from "Automatic Bulleted Lists" as well.) Click OK to close the box. To turn Auto Numbering back on, return to the dialog box and replace the checkmark.

### Northern Gardening Tips: Water Conservation in the Landscape By Cheryl Moore Gough

Water conservation is always important, even with much of the state receiving good rainfall this spring. After years of drought, it will take more than one wet spring to fill the soil. This column is one of two that will deal with water conservation.



*Sedum*

Having a nicely landscaped yard while conserving water is more than choosing drought tolerant plant species, although that helps too.

Xeriscaping, which is a term trademarked by Denver Water, is the wise use of water through water-efficient landscaping. Its principles are based on common sense and thoughtful planning. The word comes from the Greek Xeros, which means 'dry,' which certainly fits much of Montana most of the time.

To start developing a xeriscape or water-efficient landscape, you need to design and organize it with irrigation in mind. Many folks think irrigation means a high pressure sprinkler system, but while that may be the ticket for high water use areas like lawns, that's not always the best way to water. Drip irrigation, soaker hoses and bubblers use much less water

and may be used to irrigate individual plants, avoiding watering the areas between the plants.

A water-efficient landscape groups plants together based on their watering needs. Plants with moderate watering needs, such as those needing water once per week, should be planted together and watered using drip or trickle systems. Plants with low watering needs, such as those needing only an occasional shot with a hose, also should be grouped together. Using more water than your plants need is not only wasteful, with excess running over hot cement or onto nearby weeds, but isn't best for the plants. High-pressure water often results in runoff and wasted water. A slow, gentle stream will soak in more deeply than a hard, fast shot. Low-pressure sprinkler systems like drip emitters, bubblers and soakers deliver small amounts of water exactly where needed.



*Coreopsis*

Whether xeriscaping or maintaining a traditional landscape, pay attention to the time of day and the weather when you water. It's most

efficient to water in the early morning when temperatures are rising. The roots will stay moist and leaf blades will dry more quickly than when watered in the night, reducing your chance of disease. Modify your watering practices according to plants' needs, season and the weather. If you have an automatic lawn watering system, consider installing a rain sensor that will turn your system off in the rain.



*Yucca*

And speaking of rain, collect or channel rainwater for use in the garden. That water is free! Avoid watering during hot, windy periods, particularly with sprinklers that throw fine mist into the air. Much of that water never reaches your plants due to rapid evaporation.

Low-mowed Kentucky bluegrass lawns require more water than any other plant in your

landscape. If you set your mower higher, the grass uses less water. In addition, the roots will grow more deeply in response to the additional blade growth, and the blades of grass will transpire water into the air more slowly.



**Gallardia**

Another xeriscaping possibility is to reduce the area of turf grass in your landscape. If you remove the sod, incorporate organic matter into the top six inches of soil, and

cover the area with a landscape cloth and mulch, you have an attractive start to a perennial bed that you can water with drip irrigation. (I'll have more about mulches in the column after this one.)

Often overlooked as a potential xeriscaping tool is a flagstone pathway. Such paths are an attractive addition to yards, giving a nice walkway and also leading the eye to a focal point further into the garden, such as a nice specimen tree or bush. You can use creeping thyme to fill in between flagstones. There are several different species of thyme, so be careful when you purchase your plants. Common or garden thyme (*Thymus vulgaris*) would not be a good choice between flagstones, but woolly thyme, (*Thymus pseudolanuginosus*) or mother of thyme (*Thymus serpyllum*) would.

I've also seen some yards where folks have converted almost an entire small yard into a series of multi-level entertainment decks, complete with beautiful potted plants, table and barbeque, eliminating the mowing and watering of grass completely. Now THAT's livin'!

### July Birthdays

Jinrui Kang	1
Susie Couch	2
Mary Burrows	7
Andy Hogg	8
Jack Riesselman	9
Susie Siemsen	22



### Recipe of the Month

#### Fruit Salad

3 large peaches, peeled and cut into chunks  
 1 1/2 cups blueberries  
 1 1/2 cups sliced strawberries



2 bananas, sliced  
 3 teaspoons lemon juice

#### Orange-Yogurt Sauce

1 cup vanilla nonfat or low-fat yogurt  
 2 tablespoons frozen orange juice concentrate

Combine fruit and lemon juice. In a small bowl, mix yogurt and concentrate. Put fruit in a large glass bowl or 6 small bowls or parfait glasses. Drizzle sauce over fruit and top with mint.

Combine fruit and lemon juice. In a small bowl, mix yogurt and concentrate. Put fruit in a large glass bowl or 6 small bowls or parfait glasses. Drizzle sauce over fruit and top with mint.

### Joanna's New Little One!



Joanna Dumas and her husband Tim were selected from 73 applicants to view the file of a 20-month-old girl from China and have decided to adopt her.

They will travel to China sometime between December and March to pick her up. Tim and Joanna have been waiting to adopt from China for almost a year. She will be called Nina Mei (pronounced Nena May). Congratulations Tim and Joanna!

### Ahmed and Sabah have twins!

Ahmed and Sabah welcomed two baby girls to their family on June 20. Their names are Alaa and Ayet and they weighed 5 lbs 12 oz and 5 lbs 2 oz respectively and are doing well. They join their two brothers - Mohamed, age 10 and Husein, age six. Congratulations Ahmed and Sabah!

