

# Plant Science Says

Happy Easter



March, 2002

## Organized For Another Year By Debra Habernicht



January, for most of us, is a month of new beginnings and promises. In the Cereal Quality Lab, it is filled with meetings and planning for the new crop season. The CQL is not alone in this planning; the Wheat Group members collectively are scrambling to compile our Annual Reports, Progress Report to the Montana



Wheat and Barley Committee and preparing for recommendations at the Variety Release. Deb also attended a collection of meetings in Carson City, NV. The Pacific Northwest Wheat Quality Council (PNW-WQC), held its annual collaborative testing program meeting in conjunction with the Western Regional Committee-81, and the PNW Section of the American Association of Cereal Chemists. One worthy note out of the meetings was that "Paul", a

HRW wheat variety that was recommended for release this year, was unanimously accepted by the collaborators (domestic millers and bakers as well as state and federal quality labs). Deb also had the opportunity to team-up with Mike Giroux and present "Relationship of Cereal Quality to International Trade" and "Practical Applications of Biotechnology for Montana" respectively, at the Montana Ag Business Association, Great Falls.

Gina Nash joined the Wheat Group the first of the year. She will work in the Cereal Quality Lab during its busiest time through March and with the Spring Wheat Breeding Program.

## USP Funding for Undergraduate Research

Gina Goss (Sr. Horticulture), Christie Flechsenhar (Jr. Ag Ed) and Pat Buck (Jr. Biochem) won MSU Undergraduate Scholars Program funding to conduct research in Bill Dyer's lab for the 2001-2002 academic year. They are all working on aspects of a project to understand the mechanism of resistance to the auxinic herbicide dicamba in *Kochia scoparia*.

Pat Buck also won a \$1000 award from the Weed Science Society of America Undergraduate Research Scholarship Program to support related research in Bill Dyer's lab.

## Montana Ag Live! Starts Again

by Jack Riesselman

Montana Ag Live! will start its 8th season as one of KUSM's most popular programs on March 24th. As in past years the program airs live on Sunday evenings at 7:00 pm. The first program this year features Tim Anderson, a member of our department, as guest panelist. Tim will bring the audience up to date on the potential for a new gluten free crop in Montana.

Other April guests include the following: April 7<sup>th</sup> - Barry Jacobsen will discuss Montana's sugar beet industry; April 14 - Marsha Goetting will feature changes in federal estate and gift tax laws as they relate to agriculture; April 21<sup>st</sup> - Dennis Cash from Animal and Range will look at using alternate forages for livestock production. There is considerable interest in this topic due to Montana's continuing drought. The final show in April will feature Kurt Alt, a wildlife biologist with Fish, Wildlife and Parks. He will discuss conservation easements as they pertain to agriculture.

We are also starting to fill May slots. On the agenda thus far is our own Dick Pohl who will educate us on increasing real estate values through good landscape planning and Bob Julian, an independent energy consultant, who will look at increasing energy costs in agriculture. Cliff Bond from Microbiology will review the potential for hanta virus in Montana.

As we are always looking for new topics and guests, we will be happy to entertain any suggestions you may have.

## **Functional Foods and Nutraceuticals**

by **Robyn Klein**

What do oats, wheat, buckwheat, canola, flax and hemp have to do with functional foods and nutraceuticals? For starters, an estimated growth of a \$500 billion dollar market by 2010. Perhaps that is why the Department of Agricultural and Food Sciences at the University of Manitoba has received a \$25 million grant to establish a new Research and Development Centre for Functional Foods and Nutraceuticals.

Functional foods and nutraceuticals were born out of the 6 billion dollar dietary supplements market of the 1990s. The public's interest in food products that promote and maintain health has encouraged this new focus for agriculture industries.

The University of Manitoba also recognizes the benefit of the interdisciplinary approach, as they will involve the faculty of the departments of Human Ecology and Medicine and Pharmacy, as well as researchers at the National Centre for Agri-Food Research in Medicine at the St. Boniface General Hospital Research Centre.

The Centre will focus on many aspects of function foods and nutraceuticals, among them: to identify, enhance and economically extract bioactive plant compounds; to assess the biosafety of functional foods and nutraceuticals (including GMOs); and to conduct research to pilot commercial production.

For more information, see [umanitoba.ca/afs](http://umanitoba.ca/afs)

## **MSU EXCELLENCE AWARDS**

by **Cathy Cripps**

Last week the MSU Alumni Association and the Bozeman Area Chamber of Commerce presented Student Excellence Awards to 40 undergraduates, and Mentor Excellence Awards to 40 MSU faculty at an Awards Banquet held at the Sub. The student honoree for the College of Agriculture Plant Sciences and Plant Pathology Department was Sarah Klingsporns, a senior majoring in both Plant Biology and Horticulture, who maintains a high grade point average with 18-21 credits. Sarah is involved with an NSF sponsored project to study alpine fungi, and as an Undergraduate Scholar did research on psychrophilic fungi, which is being completed for publication. The Faculty Excellence award went to Cathy Cripps, assistant research scientist, and mycologist at MSU for her mentorship of students. President Gambol presented the awards, and graciously thanked each recipient for their achievements.

## **Bob's Byte**

Update on Element K -

This is an eLearning package available to MSU employees for additional training and updating.



This package is available 24/7 so that you can sharpen your skills anytime anywhere. There are a number of libraries available, but the one that most people might be interested in is the Office productivity package.

This package covers Microsoft office - 97, 2000 and XP Office, Access, Excel, PowerPoint, Acrobat, FrontPage Outlook, Quicken, Windows 95, 98, NT 4, 2000 and XP and numerous other programs.

For a full list go to

<http://www.elementk.com/corp/Catalog.html>

The cost to access the library is 40 dollars per user and the license is good for 1 year. The license also give you access to an online reference library where you can search for information on specific questions. The library contains electronic copies of the most popular books found in your bookstore's computer section.

If you would like additional information, please see me. If enough people are interested we may be able to schedule a online presentation. Let me know.

At this time ITC plans on continuing their month training sessions and tape loan-outs. That may change in the future.

### **Phone tips:**

1. To redial, simply press the button for your phone line twice and it will redial the last number you dialed.
2. When you are listening to a message, press three to skip along through it to the end or press one if you want to go back in the message (great for hearing someone's phone number again).
3. If you are calling someone and you are put on hold and do not want to hold the receiver to your ear, press hold and hang up and then when someone answers, press the button for your line again and pick up your phone. You may want to turn up the volume (the arrow keys right below the numbers) on your phone when you do this.

## Measuring Light Levels in the Home

by Bob Gough



Some plants do well in low light levels, some in high. Foliage plants are easier to grow in the home because they tolerate the lower levels of light most homes have.

If you don't have a light meter you can

still measure the amount of light in a room by using a single reflex camera and the formula:

$$FC = 20 (f) / SA$$

where "f" is the stop number, "S" the shutter speed in seconds, and "A" the ASA film speed. "FC" is the estimate in foot candles. For example, place an 8.5 x 11 inch sheet of white paper where you want to set your plant. Hold the camera about 12 inches above the paper and pointed at it. Adjust the lens until you get the okay to take the picture. Let's say you're using ASA 400 film, the f-stop reads 6, and the film speed is set at 250. Remember, that's 1/250 of a second. Plug the numbers into the formula and you get:

$$\text{Foot Candles} = 20 \times 6 / (1/250 \times 400) = 180/1.6 = 112.5.$$

The amount sitting where the white paper now rests will receive about 112 foot candles of light at that time of day and year. That's okay for foliage plants but not enough for most flowering plants. Here's a list of plants that'll do well under low light conditions found in many homes in winter.

Minimum light intensity for foliage plants grown in the home or under artificial light conditions.

Low light (15 to 25 foot candles): Arrowhead plant Roth dracaena, Australian umbrella tree Sanders dracaena, Cast iron plant Snake plant, Fiddle leaf philodendron Spadeleaf philodendron Gold dust plant Spotted dumbcane, Heartleaf philodendron Swiss cheese plant, Norfolk island pine

Medium light (25 to 50 foot candles): Aluminum plant Oval leaf peperomia, Anthericum or spider plant Oval leaf variegated peperomia, Boston fern Painted drop tongue, Bromeliads Rockford fern, Devil's ivy Roehrs dumbcane, Forster sentry palm Steel begonia Watermelon peperomia

High light (50 to 100 foot candles): Aralia ivy Pick-a-back plant, English ivy maple queen Pothos marble queen, Fiddle leaf fig Variegated rubber plant, Grape Ivy

## New Employees

**Debby Sandborgh - Account Tech - 324 LJH**

I have been a student here at MSU for nearly 6 years and am finishing up my last class and will have my B.S. in Business/Accounting this spring. The class is Governmental Accounting if any of you figures out hows



that works you stop by my desk and share the wealth.

I am a mother of 6 children and they have to date given us (husband John --- yes, that John) 5 grandchildren. Yes, if there is any doubt, I do spoil them all --- rotten to the core.

I am a native and so is my grandmother who you can find by my side most Saturday mornings as we set out on yet

another fabulous adventure. Gram is 90 and we are buddies. My boys are both active in the military with very exciting jobs. The girls all have far from fabulous jobs as cashiers and bartenders. My dear mother-in-law, age 79, is an active member of Red Cross and has made two trips to New York to help clean up the mess and work with the victims.

I also garden as much as possible with the help of the children and grandchildren; yes, they all have garden gloves. Dylan (grandchild) also uses his big Tonka Truck to get rid of the weeds he finds --- usually tomato plants, lettuce and really anything else he can get in the truck before I catch him. All of the kids have shovels and dig holes for me, they are purdy and big. I believe in natural fertilizer so I do request that my husband talk to his friends and most especially family members while standing in the garden... nothing better for the veggies!

I am also a very active member in my church and community. My newest projects include helping single parents acquire their GED so they can better their lives. I also am on the ASMSU Daycare Board of Directors and am working on a project to help improve their playground by planting trees and starting a learning garden.

Things to date here at the Plant Science office don't seem too bad. I do, however, wonder if all the higher-ups know I am working with many others who are crazier than I am. Could someone please find me a low-light plant that needs lots of fertilizer for my desk area.

## Grants

Bill Grey, "Seed Treatments for Managing Seedling Diseases and Flea Beetles on Canola," CSREES

Cathy Cripps, "Specialty Mushroom Farming in Montana," Research and Commercialization Grant

Gary Strobel, "Biological Decontamination of Human Wastes by Mycofumigation" Research and Commercialization Grant

Norm Weeden, "Scientist Mapping of Pea Symbiotic Genes," National Research Council

### On The Personal Side

Lynn Goosey became engaged to Eric George on February 2nd. Eric is employed by William Consulting, a consulting group for optometrists. They plan to be married August 3.  
Congratulations Lynn!!

### March Birthdays

Jason Cook	16
Vladimir Kanazin	24
Elaine Nichols	31
Ben Larson	7
Eva Grimme	9



### Lemon Blueberry Pancakes

2 eggs  
2 cup flour  
1 1/2 cup milk  
2 tablespoon sugar  
4 tablespoons vegetable oil  
2 tablespoon baking powder  
1 teaspoon salt  
4 teaspoons grated lemon rind  
2 teaspoon lemon juice  
1 cup fresh or frozen (thawed) blueberries  
Beat egg until fluffy; beat in remaining ingredients except blueberries just until smooth. Stir in blueberries. Grease heated griddle. Cook pancakes until puffed and dry around edges. Turn and cook other side until golden brown.



### Burger - Vegetable Soup - crock pot recipe

1 pound ground chuck  
1 cup chopped onion  
1 large (28 oz.) can whole tomatoes (chopped)  
3 cup diced potatoes  
1 (16 oz.) can cut green beans  
2 teaspoon chili powder  
2-3 dashes cayenne pepper sauce  
2 (10 1/2 oz.) cans condensed beef bouillon  
1 cup chopped celery  
1 cup sliced carrots  
1 teaspoon salt  
1 teaspoon Worcestershire sauce

Brown meat with onion and celery; drain off fat. Stir in remaining ingredients and add 1 or 2 cups water. Cover and cook on low for 8-10 hours.