

# Plant Science Says



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The Department of Plant Sciences and Plant Pathology

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**Please see last page for photos of this year's Graduation Reception.**

## Lab Focus

### Mike Giroux - Small Grain Quality Lab Research

Our lab focuses on genes involved in grain quality or agronomics of small grains. The group consists of faculty members Mike Giroux and Jack Martin along with research associates Andy Hogg, Alanna Oiestad, and Rachel Johnston and M.S. grad students Hannah Estabrooks, investigating transcription factors that regulate plant starch content and Ph.D. student Emma Jobson who is working on the creation of improved reduced height genes. Darby Kammeraad recently (May 23) completed the requirements for his M.S. after working on a project testing modified storage



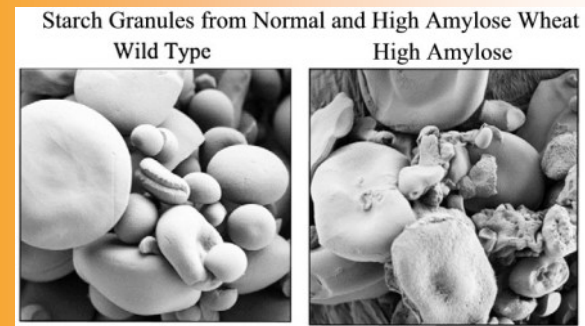
*Personnel in the Giroux lab along with various family members, clockwise from left: Brian Hogg, Lisa Giroux, Kendra Hertweck, Rachel Johnston, Andy Hogg, Darby Kammeraad, Rory Kammeraad, Bennett Kammeraad, Jack Martin, Alanna Oiestad, Hannah Estabrooks, Emma Jobson, Mike Giroux, and Dan Giroux. Photo courtesy of Jeff Johnston.*

proteins. PSPP undergrad Kendra Hertweck is also working with us this summer. The overall theme of all lab projects is improving small grains. Thus, much of the fruits of our labor ends up being tested for milling and baking quality in MSU's Cereal Quality Lab managed by Deanna Nash along with staff Taylor Walker and Harvey TeSlaa. While much of the year is spent on conducting experiments in the lab or greenhouse, we have quite a few different field experiments each year as well. Here are some details about some of our current projects.

**Durum Improvement** - We received funding from the Montana Research and Economic Development Initiation to accelerate progress toward the development of durum wheat adapted to Montana in collaboration with Northern Seeds. We currently have quite a few populations in development. One aspect that we have focused on in durum in recent years is end product quality and the impact of increased amylose content.

**Increasing Amylose Content in Wheat** - In normal wheat, amylose accounts for approximately 25% of starch with amylopectin accounting for rest. Variation in the type of starch produced impacts not just end product quality but nutritional properties as well. Amylose is not quite as readily digestible as amylopectin and absorbs less water during cooking. The impact of increasing amylose in durum is a healthier firmer pasta that resists overcooking and has a lower glycemic index. To create high amylose durum and

bread wheat, we have identified mutations in various amylopectin synthesizing genes. The difficulty in this is as amylose increases, seed size is reduced since starch content is also decreased (see image below).



**New Reduced Height (*Rht*) alleles** - As with the amylose project, the goal of this project is to develop and test new forms of native wheat genes. The importance of *Rht* gene is that some *Rht* mutations block the plant from responding to GA leading to semi-dwarf plants, increased tillering, and increased yield. But the *Rht* mutations currently available also lead to reduced seed protein and germination if planted too deeply. So, we created and are testing ~15 new *Rht* mutations and hope to identify one or more new mutations that have better yield and protein content than those currently in use.



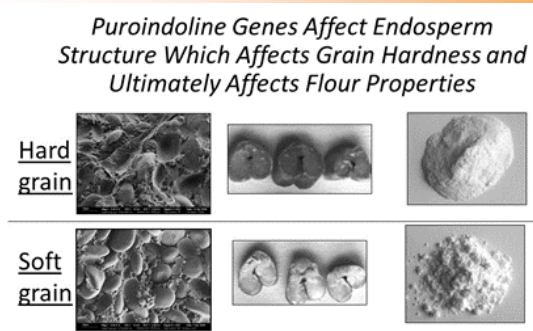
**Starch and plant growth-** Starch doesn't just impact how firm your pasta is or whether or not your food is healthy. The rate of starch biosynthesis impacts overall plant growth and development. We are testing whether increased leaf (source tissue) and seed (sink tissue) starch biosynthesis can increase plant growth and yield. The answer seems to be yes, at least in growth chambers. Our initial work is being done in model plants in growth chambers but we hope to test the impact of increased leaf and seed starch in wheat in the field within the



next few years. We are also working to identify transcription factors that could be used to more reliably increase starch biosynthesis, plant growth and overall yield.

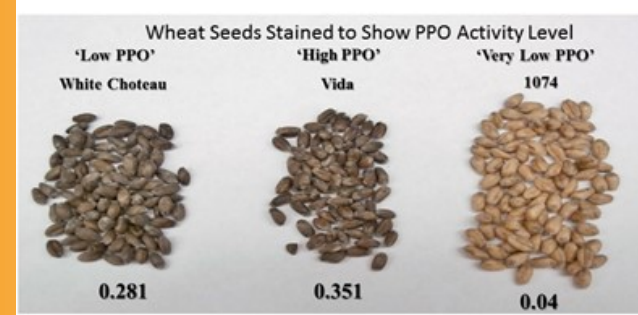
**Improving wheat storage proteins-**

Wheat seed storage proteins such as the puroindolines and high molecular weight glutenins impact wheat milling and baking properties. However, the lack of natural allelic variation in these genes limits the ability to make improvements based on selection among natural variation. As in the *Rht* and amylose projects, our goal has been to create and test a series of novel alleles of these genes. We have created and tested a series (actually several hundred!) puroindoline and high molecular glutenin alleles to look for those with improved end product qualities. If you were at Darby's recent M.S. seminar, you know this works well for some genes like puroindolines. You would also know that it doesn't work well for some other genes.



**Improving Asian noodle color-** The majority of Montana's wheat is exported to Pacific Rim countries. A good portion of that is used for Asian noodles. Consumers prefer noodles that maintain a bright creamy color over time. Polyphenol oxidase (PPO) causes noodles to lose their color over time. Major genes control most of the variation in PPO activity in wheat. Allelic variation does exist for these genes that can reduce PPO activity. Past M.S. grad Steven Hystad characterized null alleles for two major PPO genes. These two null alleles, when combined, give negligible kernel PPO levels. These null PPO genotypes also produced Asian noodles with an improved noodle color

profile. These genotypes will be useful in improving Asian noodle quality.



### **GALLATIN VALLEY FARM FAIR 2016**

#### The Potato Station

By Nina Zidack

How do we educate our increasingly urban communities about where their food comes from when only 2% of the US population lives on a farm? In Gallatin County, Montana, we start early through a program for 4<sup>th</sup> graders called Farm Fair that is sponsored by the Gallatin Valley Agriculture Committee which is a sub-committee between the Belgrade and Bozeman Chambers of Commerce. The program originated twelve years ago and was an instant success with 450 students. Fast forward to May, 2016, and the attendance is up to 1100 including nearly all city and rural schools in the county. This program requires over 200 volunteers, including members of the Plant Science and Plant Pathology Department, and spans three school days. Since its inception, the



*Eileen Carpenter showing the students the parts of the potato plant.*

Brainard Farm in Manhattan, Montana has provided a genuine farm location surrounded by mountains in the heart of the Gallatin Valley. The program is organized into 16 stations including major types of livestock, crops, weeds, farm safety, 4-H, water, forestry, bees, and potatoes. Many of the stations are actually located in barn stalls. The potato station was led by members of the Potato Lab and Extension where students are taught the differences between seed potatoes and the potatoes they buy in the store, and how nutritious and versatile potatoes are. The highlight of the potato station is the "harvest" of a potato plant where students get to tear apart a potted potato plant and learn to identify all the important parts. Students generally find the seed piece or "mother potato" endearing, if not a little shriveled and wrinkled, and the baby potatoes cute and "cool"! The kids show genuine enthusiasm and it can be a challenge to keep them from eating their harvest on the spot, dirt and all. Following the potato station, the students then go to the crops station, which is also taught by several members of the department. After the students finish showing us their potato, we show the students plants and seeds of several different crops grown in Montana. We also show and discuss the end-use products that come from our crops such as cereal, bread, lentil soup, and the always popular Whoppers. Some students are surprised to learn sugar comes from sugar beets, and they conclude that if sugar comes from a plant then it must be healthy. Everyone is treated to locally produced barbecued hamburgers for lunch and during the horse-drawn wagon tour around the farm, students learn about different cropping systems. One of the most rewarding aspects of the program is the response from the teachers and chaperones such as, "I had no idea what went into growing potatoes, much less seed potatoes"! This opportunity to educate the younger generation about agriculture is vital in enhancing future dialog and respect between the agricultural and urban communities. The agricultural and urban communities are intertwined with shared resources, especially water and open space. Demonstrating how maintaining agricultural

production can actually enhance the quality of life for all residents, as well as produce food and preserve open space is paramount for ensuring communities that support agriculture.

### The Bee Booth

By Michelle Flenniken

The bee booth at the Gallatin Valley Farm Fair was a huge hit once again this year. Last month Michelle Flenniken and several volunteers from the PSPP Department (including Ruth O'Neil, Kevin Wanner, Amy Dolan, Laurie Kerzicnik, and Flenniken lab graduate students) hosted over 1,100 4<sup>th</sup>



*Alex McMenamin, a PhD student in my lab and I on May 13th - I took the observation colony to Morningstar Elementary school for two informational / Q&A sessions with 1st graders (~ 80 total, in small groups). Photo by Kama Werner.*



graders at the bee booth. Students attended in groups of ~ 20 for 15 minute intervals, in which they learned about honey bee biology and their important role as pollinators of numerous agricultural crops through demonstrations, interactive Q&A session, and by viewing an observation colony.

Some of the interesting facts we shared with the students were (1) that honey bees pollinate over 180 crops, which are valued at \$17-18 billion dollars annually in North America, and (2) that Montana is a big beekeeping state that typically ranks in the top 5 for honey production (e.g., in 2013, Montana ranked 2<sup>nd</sup> and produced ~15 million pounds of honey, valued at ~\$30 million, and provided over 150,000 colonies for pollination services).

The students were able to observe the interior of a bee colony and see the queen bee lay eggs (which she does between 1,000 – 2,000 times per day). A fun interactive question we asked is how many visits to a flower it would take to make one pound of honey. They loved guessing and were shocked to find out that it was two million visits. A hive of bees will fly 90,000 miles, the equivalent of three orbits around the earth, to collect two pounds of honey, hence the phrase "busy as a bee". Most rewarding was all the thoughtful questions from the kids and their adult chaperones! Often they hung around the table after the horn blew trying to ask more questions before the next class came through. Common questions included how long the female queen lives (up to five years), how long the female workers live (four to six weeks in the summer) and how many bees are in a hive (around 40,000 - 70,000). Many of the boys repeatedly asked "Is there a king bee?"! This was an interesting point for future education. When I asked, "Are there more boys or girls in the colony?" several groups answered correctly, that most of the colony is composed of female bees. Time will tell if we have managed to inspire a future generation of beekeepers!

**Sharing the Wealth  
By Florence Dunkel**

Beyond the Celtic harp of Greta Robison and the Northern Cheyenne voice and drum beat of tribal historian, Conrad Fisher, on April 28, there was an amazing exchange occurring at the 16<sup>th</sup> biannual Share-the-Wealth Symposium. Western science findings were sharing space on posters and in PowerPoint presentations with Native Science knowledge. As the sixteen spring semester students in AGSC 465R Health, Poverty, Agriculture: Concepts and Action Research took their places beside their posters in the atrium outside of the Thayer Conference Room, concurrent discussions began.

What is the nutritional value of bison and cow entrails? What was the historical survival value for the Northern Cheyenne in knowing how to prepare a tasty dish of bison stomach lining or cow hooves? Why did AGSC 465R students help the Lodge Grass FFA students cut down their Russian olive trees? And, how will this create a small economic engine for AgEd woodworking shop in Lodge Grass High School? But how is all this related to traditional berries of the Apsaalooke? Why might berries have developed as part of a



AGSC 465R students gather with Symposium guests, students for Fall 2016, instructor of our tribal college-linked course, George Nightwalker, Chief Dull Knife College, Lame Deer, MT, and Florence Dunkel, AGSC 465R professor.

rite of passage for one- year old Apsaalooke members? How important are Native languages in preserving the meaning of these traditional foods. Sustainable Foods and Bioenergy majors (Alena Bagoly, Jack Duchin, Kendra Teague, Cory Babb, Maddie Loucy, Dea Vaczy, and Kelly Murphy), a Horticulture major (Tanner McAvoy), and an Animal Science major (Sydney Howard) answered these questions.

At the other end of the atrium, Nutrition Science students (Danielle Braget, Kyle



Danielle Braget, graduating senior in Nutritional Sciences presents her micronutrient analysis of the diet of 2-4 year olds in Sanambebe, Mali along with village-produced food suggestions to alleviate absence of cyanocobalamin, vitamin B12.



AGSC 465R students gather with Symposium guests, students for Fall 2016, instructor of our tribal college-linked course, George Nightwalker, Chief Dull Knife College, Lame Deer, MT, and Florence Dunkel, AGSC 465R professor.

Lavender, Taylor Anderson) explained to Symposium guests the newly confirmed link between malaria, kwashiorkor, and micronutrient deficiency. Others, including Anthropology major Isak Petersen and Computer Science major Nastascia Langfields, demonstrated for guests how they told stories for villagers of Sanambele, Mali of cerebral malaria and how the body's immune response fights the protozoan if there are adequate nutrients in one's diet---a challenging "scientific translation" task since most adults in this subsistence farming village have had no formal education. Still other Sustainable Foods majors (Mary Hunt, Bridger Dunnagan) described how they tested villagers to see if village-produced cricket powder mixed with the millet or sorghum tou (mainstay of Malian diet) could supply the missing B12.

A video message from co-instructor Dr. Hiram Larew, PSPP affiliate faculty member and recently retired Director of USDA NIFA's Center for International Development, followed the poster discussions. George Nightwalker, Northern Cheyenne Elder and instructor of our linked course at Chief Dull Knife College (NS 221) brought tribal greetings. Formal presentations by the 16 students in the conference room ensued and then it was time for dinner in the Atrium with guests and the new fall 2016 students. But the discussion continues...

#### **IPM of Small Fruits in the Bitterroot By Laurie Kerzicnik**

I started the first year of a 2-yr Specialty Crop Block Grant project and will address insect pests, predators, and potential invasive insects for six apple growers in the Bitterroot. I am comparing pest and predator densities in orchards managed with integrated pest management techniques versus conventional management. One of the primary invasive insects of concern is the brown marmorated stink bug, *Halyomorpha halys*. Although not yet detected in Montana, it is established in 42 states and 2 Canadian provinces and attacks over 170 different plant species. It is a serious pest of economic importance for tree fruits in the Mid-Atlantic states. Early identification



Figure 2. Thomas orchard in Stevensville



Figure 4. Brown marmorated stink bug trap.

and rapid response to contain this important pest will be necessary to mitigate its damage to our fruit tree industry and also our urban yards and gardens.

#### **Pollinator Garden By Michelle Flenniken**

Thank you to all who volunteered at MSU's Honey Bee Research Site and Pollinator Garden on May 13. I really appreciate all of your help.

For those that couldn't join us, there will be another opportunity on Friday, June 10, at 12:00 pm. If you can't join us or are too busy tending your own gardens, etc. - please let others know who may want to volunteer.

Date: Friday, June 10  
Time: 12 p.m. to ~2 p.m.  
Location: MSU Hort Farm

Parking: It would be best if you park near the Horse Pavilion.

What to Bring: Appropriate attire (hats, gloves, etc.) cold drinks/water, planting tools and water bottles

What to Expect: Weeding, planting, and garden maintenance activities

Please email Michelle Flenniken at michelle.flenniken@montana.edu if you have any questions.

### **Therapeutic Horticulture at Eagle Mount by Barbara Oyster, Potato Lab**

Almost everyone in Bozeman knows about Eagle Mount, but very few know that therapeutic horticulture is one of the programs they offer. The program is small, but growing.

We meet twice a week to learn about how to plant and care for our garden. We have a small green house, raised beds and a large garden plot. Every year we plant a number of "sure bets" but also have fun



*Eagle Mount participants and volunteers planting potatoes.*

experimenting and trying new things. In the fall we have a harvest party and enjoy the fruits (and vegetables) of our labors. I found my way to Eagle Mount 10 years ago when I went to work there in order to accumulate enough volunteer hours to earn my Master Gardener Certificate. I had such a rewarding experience that, ten years later, I'm still a volunteer.

Four years ago, I started working at the MSU Potato Lab. That year, and every year since, Nina Zidack has come to the horticulture program to give a presentation on growing potatoes and to provide a variety of seed potatoes for us to plant. I think it's fair to say she loves the reception she gets. Last year, Dave Baumbauer gave us a tour of the MSU horticulture farm. I think both will agree that they've never had a more receptive group. We are always interested in attracting more volunteers and coming up with new and interesting topics. Please call Colleen Hebert (Horticulture Program Coordinator) at 586-1781 or Barbara Oyster at 587-2165 if you think you would enjoy volunteering for our weekly meetings or if you have a specific topic you would like to share with us, please give a call.

### **Montana Ag Live!**

June 5 - Cathy Cripps, MSU Mycologist, "Rocky MT Mushrooms, delightful, dangerous or delectable".

June 12 - Perry Miller, MSU Soil Scientist, "Why we are growing more than a million acres of pulse crops in Montana".

### **MAES Research Field Days:**

June 21 CARC - Moccasin  
June 22 NARC - Havre  
June 23 WTARC - Conrad  
June 28 SARC - Huntley  
Includes summer conference  
June 30 EARC - Sidney  
July 7 MSU Post Farm and Hort Farm—Bozeman  
July 28 WARC -Corvallis  
NWARC - No official Field Day, but will have crop tours of surrounding area.

**Class Focus**  
**HORT 331 – Planting Design**  
**Jennifer Britton**

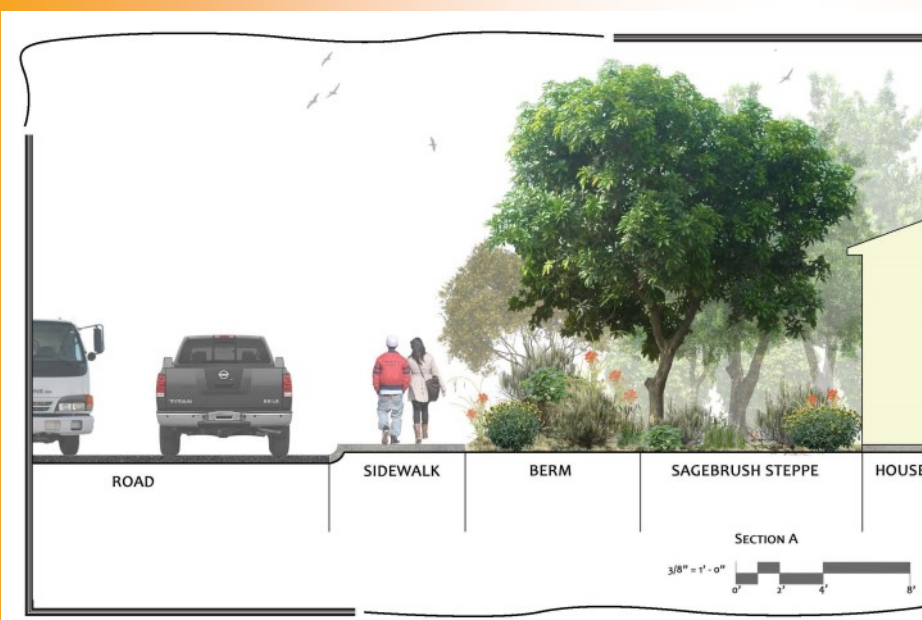
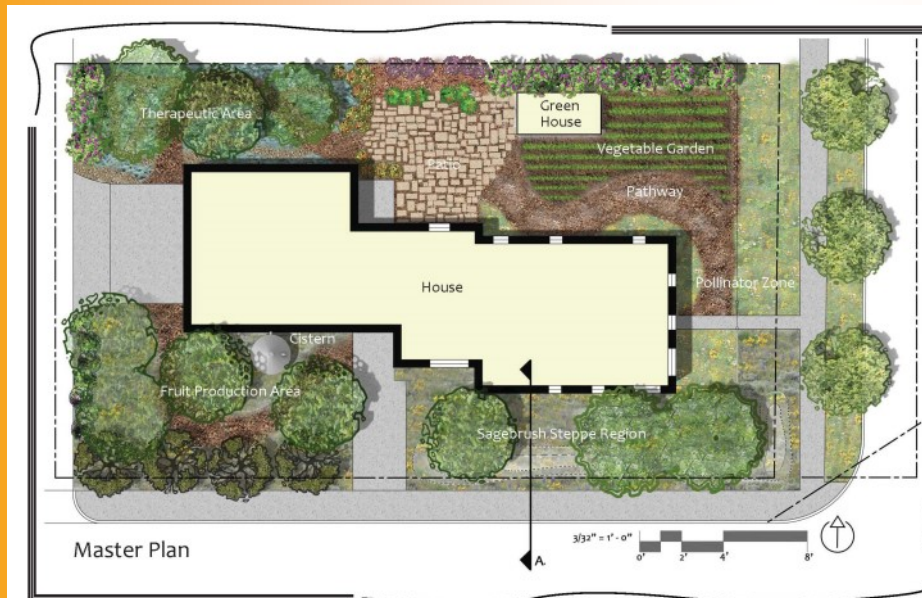


*"A society grows great when old men plant trees whose shade they know they shall never sit in."*  
 ~Greek Proverb

Works of landscape architecture, and in particular planting design, encompass analysis, planning, design, management, and stewardship of the natural and built environments. Plants are the essence of a garden. As a unique material in landscape architecture and design, plants

are the living beings through which we form our partnerships with nature. Whether for their use, ecology, or aesthetics, they are dynamic life forms in constant flux in growing, flowering, fruiting, reproducing, maturing, and eventually dying.

For students in Environmental Horticulture pursuing the Landscape Design option, HORT 331 Planting Design serves as an introduction to planting design and to further enhance appreciation of materials and understanding of processes. Studio projects selected expose students to various approaches, theories, and techniques with emphasis on plant function and aesthetic in landscape composition, design creativity, theory development, and technical ability.



So what does all this jargon really mean? This junior level class is the student's first upper division design class requiring synthesis and analysis of previous design inspiration, theoretical knowledge and technical skill. The studio class meets twice a week during the fall semester on Tuesday and Thursday from 1:00-3:30. We interpret a wide range of creative works such as music, earth art, and environmental psychologists to inspire planting design. Although we have brief lectures on relevant technical information, class time also provides opportunity for critique and feedback as students develop their project's design principles and elements- a landscape's form, repetition, balance, color and so forth. Projects range from 2-4 weeks in duration with pin-up presentations for each project.

Admittedly, and as former students can probably attest, I am not a big fan of the "sea of turf" approach to planting: the complaisant lawn that relies too heavily on water, chemicals, and mowers. So I



approach teaching plant communities with a focus on sustainable practices of pollinator and fauna habitat and “right plant for the right place.”

It is my goal that students leaving HORT 331 will have practical experience in communicating ideas and composing planting plans from concept through to construction documentation. Ultimately, I hope students will have the ability to realize for themselves how their designs, selection of materials and installation methods effect people, environment and place.

### New Graduate Students

#### Dylan Mangel - Andreas Fischer



My name is Dylan Mangel and I am a new Master’s student in Andreas Fischer’s lab. I grew up near Lincoln, Nebraska and spent four years in the Air Force after high school. During my time in the Air Force I was stationed in Great Falls, Montana, where I gained a love for the state’s wilderness. After my enlistment ended, I moved back to Lincoln where I completed my undergrad at the University of Nebraska-Lincoln in Agronomy.

While living in Nebraska, I enjoyed gardening, kayaking, canoeing, and camping with my friends. I am excited to be back in Montana and I look forward to snow skiing and paddling on the Missouri and Yellowstone Rivers, as well as meeting everyone in the department!

### Invited Talks

Slide show at the Bozeman Library, Tuesday May 31<sup>st</sup> 7 pm, on ‘Mushrooms of the Rocky Mountains’ by [Cathy Cripps](#)

Book signing at Country Bookshelf, Thursday June 9<sup>th</sup> at 7 pm, for ‘The Essential Guide to Rocky Mountain Mushrooms by Habitat’ by [Cathy Cripps](#), Vera S. Evenson, and Michael Kuo.

### Publications

[Dunkel, F.V.](#), M. Hansen, S.J. Halvorson, A. Bangert. 2016. Women’s Perceptions of Health, Quality of Life, and Malaria Management in Kakamega County, Western Province, Kenya. *GeoJournal*. DOI 10.1007/s10708-016-9701-7 Web published open source 4 May 2016. 25pp.

Barge, E.G., [Cripps, C.L.](#), and T.W. Osmundson. 2016. Systematics of the ectomycorrhizal genus *Lactarius* in the Rocky Mountain alpine zone. *Mycologia* 108(2): 414-440. 26 pp.

### Strobel News



Gary Strobel, Cover of *Microbial Ecology*, Vol 71, Number 4, May 2016. Each year many of buffalo in and around Yellowstone National Park are rounded up and taken to slaughter. Although these huge animals rely on bacterial fermentation

processes to digest fibers in their gut, many are found to carry another bacterium, namely *Brucella abortus*. This organism causes abortion in cattle and other farm animals. Thus, their ability to roam outside of the Park is strictly controlled by state and federal regulations regarding mixing of bison with local cattle herds. This is an ongoing problem and illustrates the importance of microbes in an ecosystem.

Dr Donghui Yan, of the Chinese National Academy of Forestry, visited the department From May 3 through May 13. He is starting a program at the academy on [endophytes of forest species in China](#). He primarily consulted with Dr. Strobel concerning his work on these organisms.

Patent - The endophytic fungus *M. crispans* makes a series of bioactive volatile compounds that act synergistically with each other. The mixture has use in controlling post harvest diseases, as well as human and animal medicine. A patent by Gary Strobel and others entitled- "Bioactive volatile compounds from the novel fungus *Muscodora crispans*" was issued in the United States in 2015, but it has just been announced that it also has issued in the following countries Lebanon, Australia, China, Hong Kong, Israel, Mexico, New Zealand, South Africa, and Taiwan.

### Grants

Robert Fluhr (Weizmann Institute of Science, Israel) and Andreas Fischer: "Functional analysis of barley cysteine proteases and their role in nitrogen remobilization from senescing leaves." US-Israel Binational Agricultural Research and Development Fund (BARD), July 2016-July 2019.

### Zika Virus Transmission in Montana By Dr. Greg Johnson, Guest Columnist Dept. of Animal and Range Sciences

I have received a number of questions over the past couple of months about Zika virus (ZV) and the potential for mosquitoes in Montana to transmit the virus. People traveling to regions where ZV may occur are also asking what precautions they should take.

Currently, there are two mosquito species in the continental U.S. and U.S. possessions that are competent vectors of ZV. These are the yellow fever mosquito (*Aedes aegypti*) (Fig 1) and the Asian tiger mosquito (*Aedes albopictus*) (Fig 2). The yellow fever mosquito is established in states along the Gulf Coast, southern portions of Arizona and New Mexico and parts of California (Fig. 3). The Asian tiger mosquito has a broader distribution range occurring in 26 states including states in the Mid-west, Gulf Coast and East Coast (Fig. 3).

The Montana mosquito and West Nile virus surveillance program, a collaborative effort



Fig. 1. The yellow fever mosquito, *Aedes aegypti* Source: vectorbase.org



Fig 2. The Asian tiger mosquito, *Aedes albopictus*. Source: commons.wikipedia.org

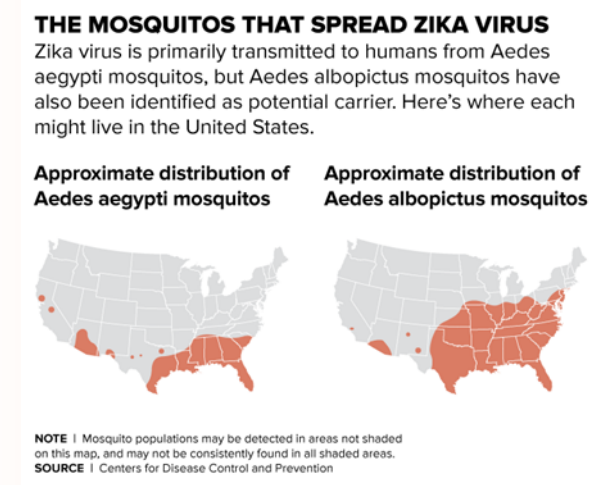


Fig. 3. Distribution of the yellow fever mosquito and the Asian tiger mosquito in the U.S.

that started in 2003 with MSU Extension, Carroll College and the Montana Department of Public Health and Human Services, has determined that neither of these species is found in Montana. Check out the Montana Mosquito Surveillance website if you are interested in seeing what species are in Montana and where they occur <http://>

[django.msu.montana.edu/MTmosquito](http://django.msu.montana.edu/MTmosquito). Since the potential risk of transmission is determined by the distribution of the two mosquito vectors mentioned above, the likelihood of ZV transmission by a mosquito species in Montana is currently non-existent.

However, there are risks for people traveling to parts of the U.S and other countries where ZV transmission can occur. The best way to minimize this risk is to protect yourself from mosquito bites. Since a vaccine is not available, the use of an EPA registered repellent that contains one of the following active ingredients: 20% or more DEET (tradenames - OFF, REPEL), picaridin (Cutter Advanced, Picaridin Insect Repellent) or lemon oil of eucalyptus (Repel Lemon Eucalyptus, Cutter Lemon Eucalyptus) is highly recommended. These are considered the best repellents to use by the Centers for Disease Control and Prevention (CDC) because efficacy trials have found them to be very effective in protecting people from mosquito bites for an extended period and are safe when used according to the product label.

In addition to repellent information, the CDC Zika website [www.cdc.gov/zika](http://www.cdc.gov/zika) provides information on other relevant topics including areas at risk for ZV transmission, symptoms, information for pregnant women and the latest statistics on ZV transmission both nationally and globally. It would be advisable to check the website out before adventuring beyond the safety of Montana's borders! Have a good summer and remember your repellent. By the way, DEET also repels ticks.

### Recipe of the Month

#### Oven Roasted Asparagus



1 bunch thin asparagus spears, trimmed  
3 tablespoons olive oil  
1 1/2 tablespoons grated Parmesan cheese  
1 clove garlic, minced (optional)  
1 teaspoon sea salt

1/2 teaspoon ground black pepper  
1 tablespoon lemon juice (optional)  
Preheat an oven to 425 degrees F (220 degrees C). Place the asparagus into a mixing bowl, and drizzle with the olive oil. Toss to coat the spears, then sprinkle with Parmesan cheese, garlic, salt, and pepper. Arrange the asparagus onto a baking sheet in a single layer.

Bake in the preheated oven until just tender, 12 to 15 minutes depending on thickness. Sprinkle with lemon juice just before serving.

### June Birthdays

Jill Scarson	3
Li Huang	12
Jennifer Britton	12
Mac Burgess	13
Ron Ramsfield	15
Luther Talbert	18
Eileen Carpenter	22
Bill Hoch	25



# PSPP Spring 2016 Graduation



Go Cats!

