Plant Science Says

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Montana Seed Growers 90 Years Old
by Ron Larson

The first seed production in Montana began in the late 1800s when alfalfa was introduced for forage. Not only is alfalfa a good forage crop, but it spawned the development of a market for alfalfa seed, which soon became a lucrative business.

By 1912, Montana crop producers were talking about the need for rules and standards to help maintain good quality seed for marketing. In September of that year farmers and ranchers met during the State Fair in Helena, where Sept. 25-26 at the fair, they formed the Montana Seed Growers Association with James Griffin of Chinook as temporary secretary. Then they elected F. C. Sumner of Clyde Park president. Charles L. Wentworth of Lewistown was elected vice president. Directors were W. Talbot of Cascade County, I.D. O'Donnell of Yellowstone County, Pat Carney of Madison, A. J. Kerlin of Deer Lodge and Joe Nash of Clyde Park.

The Montana Seed Growers Association officially formed on Sept. 26, 1912 with Alfred Atkinson (who later became President of the Montana State College) in attendance along with several other professors. The group met again in the "grain room of the Agricultural Building" at MSC on Jan. 27, 1913, when members discussed the need to have the Montana Legislature establish a state grain laboratory.

By 1913, association minutes show that it had 39 members, each paying $3 in annual dues. From this tidy sum of $117, the association spent less than half in expenses the first year: $46.74. Active members in those first years also included Frank A. Hazelbaker of Dillon and H. Mendelson of Edgar.

The association's purpose was to establish regulations and standards to provide quality seed through a generation system, varietal identity, and by mechanical analysis. It was and is not a marketing association.

The group approved a "Standard Variety List," which in 1921 included Marquis spring wheat, Dicklow soft white wheat, Montana No. 36 wheat, Pelliss Durum, Kubanka durum, Victory oats, Hannchen barley, Trebi barley, N.D. No. 959 rye, N.D. No. 155 Flax, Grimm alfalfa and Cossack alfalfa.

MSGA provides and administers a governing set of standards under which members agree to grow and produce seed. As a result, seed growers and sellers provide the public with a source of high quality seed that is genetically pure, mechanically free of contaminants, and viable.

In 1951, Montana State Legislators passed a law that Montana State University be the designated certification agency for the state, certifying all seeds and plant parts except potatoes. Under authority of the act, the MSU president delegated to the MSGA the responsibility for certifying all field crops except potatoes. MSGA maintains a close relationship with Montana State University, the faculty and staff of the Dept. of Plant Sciences and Plant Pathology, the Ag. Experiment Station and the Montana Extension Service.

For an interesting photo, go to the following website: http://www.montana.edu/wwwpb/ag/1959seedschool.jpg. See anyone you recognize?

Specialty Mushroom Farming: from China to Montana
by Todd Osmundson

Lentinula edodes, otherwise known as the shiitake, black forest mushroom, oak mushroom, or xiang gu, is the most widely cultivated specialty mushroom in the United States, second only to the standard white button mushroom

(*Agaricus brunnescens*) in popularity. It has been estimated that *L. edodes* was first cultivated in China between 1000 and 1100 A.D., using natural logs as a cultivation substrate. As a result of this long history and the importance of fungi in Chinese food, culture, and medicine, China has been the origin of many of the major developments in *L. edodes* cultivation, actively supports research on edible and medicinal fungi, and is the world's leading producer and exporter of *L. edodes*.

Cultivation of *L. edodes* is a relatively new industry in the United States and other western countries, with a history dating back to the late 1970s. While U.S. *L. edodes* production has increased 47% since 1998, this level represented less than 0.3% of world production in 2000-2001. Research on cultivation of edible fungi in the U.S. is limited, with the most notable exception being ongoing research conducted at Penn State University.

With financial support from the Montana Research and Commercialization Board, the MSU Mycology lab has recently begun a collaborative research project with Glen and Wendy Babcock, owners of Garden City Fungi, to develop methods of increasing production of *L. edodes* and other specialty mushrooms in Montana. Garden City Fungi (GCF), located in the Ninemile Valley west of Missoula, is Montana's only commercial producer of *L. edodes*, specializing in production of fresh mushrooms as well as grow-at-home mushroom kits. As a research partner, GCF will provide an outlet for testing new methods and technologies at the commercial production scale. Objectives

for our research include developing new inoculation technologies, testing culture strains for commercial potential, evaluating the usefulness of agricultural and commercial waste products as cultivation substrates, developing and maintaining a fungal culture bank, and domesticating wild strains of edible fungi native to Montana.

The Great Wall near Beijing

In early March, I traveled with Glen and Wendy Babcock to attend the 2002 Biyang International Symposium on the Technology and Marketing of *Lentinula edodes* held in Biyang County, Henan Province, China. A similar conference, held in China in the mid-1970s, is widely credited with providing the impetus for development of the *L. edodes* industry in western countries. Our trip provided an opportunity to learn about recent developments in *L. edodes* cultivation, tour several Chinese production facilities, acquire over 80 strains of edible fungi, meet with western and Chinese producers, and develop a better understanding of marketing and trade issues especially in the light of China's recent accession into the World Trade Organization.

I will be offering a departmental Tuesday seminar entitled "Specialty Mushroom Farming: from China to Montana" on April 9 at 4:00 p.m. In this seminar I will describe the trip to China and how it relates to specialty mushroom research currently being conducted under the direction of Dr. Cathy Cripps and Dr. Don Mathre in the MSU Mycology lab.

Bob's Byte

Bob has been on vacation so I searched the web and found this helpful little computer tip:

Do you like those pesky pop-up windows flying up in your face and slowing you down while browsing on the Internet? I haven't found anyone who always liked them. They are no fun, especially when their content (and maybe their intent) is objectionable.

Some pop-up windows are quite useful, especially when they gracefully pop-under the browser window you are focusing on. They may be soliciting your subscription to a newsletter, or may be describing a free offer of something useful to you. But some pop-ups are nasty!

Even giant search engine, Google.com has now banned the use of pop-up windows from it's site. It's a drastic

measure taken by Google but apparently the negative effects of pop-ups have superceded google's tolerance level.

> Anyway... what to do to eliminate pop-up windows, besides buying software which needs configuring? An search expert, Greg Notess suggests using the key combination Ctrl+W.

That's all! Hold down the control key and hit the W key. Don't do this too quickly or you will be close your open browser window.

The website I found the above tip at was: http://www.ehomeopportunities.com/tips.htm. There are a few other good tips at this sight plus there is a free newsletter you can subscribe to that gives additional tips if you are interested.

Summer Organic Farm Training Program
by Robyn Klein

Desert Woman Botanicals is seeking dedicated, motivated, apprentices for the 2002 season. The program involves all aspects of the selection, planting, cultivation, harvesting, post-harvest preparations, marketing, distribution, and administration of an herb business. Whether you subsequently choose to establish a business as a grower/seller of plants, create and market herbal products, find a niche within the herbal community and industry, continue your formal education, pursue alternate avenues in the health field, or simply take charge of your life by learning to grow your own organic food and prepare your own herbal products, you will gain broad and specific knowledge, expanded awareness, and hands-on, practical experience that often requires years of study. This unique opportunity is for someone with a serious intent and heartfelt desire.

For more information see http://www.desertwoman.net/ or talk to graduate student, Robyn Klein.

Ivy Care
by Bob Gough

Well, it depends a little bit on what kind of ivy it is. But more importantly, it depends upon the conditions you provide it. Under natural conditions, many ivy are understory plants, that is, they prefer conditions beneath a canopy of larger shrubs and trees. That means increased relative humidity and partial sunlight. Most homes are too dry for good growth of ivy. That's especially true in Montana, where we have low relative humidity to begin with. Add central heating to that, and you get static electricity and dead ivy. As a remedy, I suggest you invest in a room or central home humidifier to put some moisture into the air.

Also, don't place the ivy in a south, southwest, southeast, or west-facing window. It gets too hot there and the excess sunlight sometimes will destroy some of the chlorophyll in these plants, causing them to "bleach out." Instead, put the ivy in indirect sunlight, in the corner of a room, or in a north- or east-facing window.

A third difficulty with growing some ivy in the home is mites. These small relatives of spiders rasp away on the leaves, causing them to become chlorotic (yellowed) and many times, speckled. Look for them on the undersides of the leaves. They'll also make some tiny cobwebs that are visible in the right light. Dry and especially dusty conditions favor mite infestations. If you believe you have mites, bring a small sample of the leaf tissue to your local county ag agent for proper identification and control recommendation.

New Employees
Toby Day - Post Farm - Bernie Schaff

Yes, I'm still here. I started my college career at MSU in 1992, but please don't mock me that it took me nearly ten years. (No mom, I still don't know what I want to be). I graduated with a degree in horticulture/landscape Design option in December, 2000. I have been working off and on for David Baumbauer in the PGC as a student worker (Yes, that was my ugly mug peaking around the corner at you) before getting hired on as the new Ag. Research Specialist/Horticulture Technician. Currently, I am Bernard Schaff's right-hand man at the Post Farm. Many have said that I have to have a sense of humor working for Bernie. I bang my funny bone every day to remind myself. Bernie has said I will lose my sense of humor working with everybody else. Oh, what the future holds!?

I was born in this fair town many years ago. Believe it or not, there are still some of us wandering the streets wondering what just happened. I grew up near South Cottonwood Canyon before my parents ran away from home when I was 18. I was engaged to a beautiful woman by the name of Jennifer Dunn in front of 3,500 screaming hockey fans. We are no longer engaged, something strange happened, and she actually married me. That was nearly four years ago. We just bought our first house, a little fixer-upper in Manhattan. We are excited to paint the walls something other than off-white. (For those of you who don't rent, every apartment on earth has off-white walls.)

My hobbies keep me from being an asset to the community. I have to con myself into believing that I enjoy hunting (walk aimlessly through the forest), fly fishing (walking aimlessly al the river) hiking (walking aimlessly up a mountain), Backpacking (walking aimlessly up a mountain with everything you own strapped to your back), and camping (finally stopping to sleep). My newest hobby is unicycling. It takes grace, balance, agility and the occasional head wound from hitting anything that is in my way. My friends and I have learned that riding a unicycle is very much like life. Lean forward and peddle like hell.

I am excited to be part of this department, thus allowing me to continue peddling.

Dorothy Morton -Secretary - Potato Lab

My name is Dorothy Ann Morton. I was born in Minnesota in July of 1977. I attended a junior college in Illinois for two years before moving to Livingston, where I have now lived for 5 years. Three years ago, I met Donny Morton and eventually married him. He is a graduate of MSU, with a degree in Biochemistry. We have been married for 1 year, and have a wonderful 5 year-old son named Shawn. Donny was born in Billings and comes from a cattle ranch in Broadview MT. I also come from a farming family, because my grandmother was born on a on a farm, and my grandfather was a potato farmer. In my spare time, I love to garden, spend time with family and friends, and scrap book.

New Graduate Student
Oliver T. Zietlow - Barry Jacobsen - 130 ABS

Hello and Guten Tag. My name is Oliver and I'm from Bavaria, Germany. I attended public schools in my hometown of Fuessen, near "Neuschwanstein" (Mad King Ludwigs castle). After graduating from high school, I enrolled at the "University of Applied Sciences" in Freising, Bavaria and majored in horticulture. I graduated in the fall of 2001 and received my "Ingenieur's degree". While working in the Department of Botanic and Plant Pathology at the University, I became interested in biocontrol. Since I already had personal ties to MSU, I decided to apply for Graduate School. After being accepted, I joined Barry Jacobsen's lab and will start my graduate work this summer.

However, this is not the only reason why I'm glad to be here! I have always tried to get to know new people and countries. In Bozeman, I have found people to be very kind and it also will be a lovely place to live for the next few years. See you around!

Oh, you want to know something personal?! Ok. I love to cook, I enjoy taking walks and taking photos of flowers or the beautiful country side. I love my Bavarian leather trousers and I'm mad about sauerkraut.

Poetry Corner
How to Make a Difference
Inspired by Dr. David Sands

Plastic, Coke, computers, cars
All so very natural to us
But where did they come from?
The depths of our minds
breed amazing things
So why does the right
win over the left
when science is involved?
Einstein disagreed
Nature and reason
can take us only so far
The road beyond is all in our heads
The pencil you re grasping,
the paper you re holding
the chair you re squishing
all began as tiny signals
flying through the head
of someone like you.
We are all inventors
yet most choose to ignore it
Dreams of a more efficient mouse,
a way to improve our sense of smell,
a better source of energy
emerge day and night,
behind our eyes
We are taught to ignore them
If said out loud they could be
an embarrassment
It would be too expensive
No one would like it

Our body would reject it
Like a baby mouse
in a snake s cage
ou eas are devoured and destroyed
before given a chance to live
Why think of problems
when you could create solutions?
Our lives are good
but they could be better
Open your eyes and your ears
Listen, acknowledge, discuss
Before disregarding
There is so much we can learn
from ourselves
from each other
If only we could set our minds free

On The Personal Side
Curt (Cereal Quality Lab) and Lisa Foster became the proud new parents of Derek Russell on Saturday, March 23 at 11:59 p.m. He weighed 7 lbs, 2oz. Congratulations!

April Birthdays

Deb Habernicht	6
S ne Mickelson	8
John Sherwood	12
Mike Giroux	12
Matt Lavin	20
Rebecca Bargabus	21
Lynn Goosey	24
Andreas Fischer	25
Nina Zidack	26
Rich Stout	30

Recipe of the Month
Hot Asparagus Salad
7 bacon strips, diced
1 pound fresh asparagus, trimmed
1/3 cup vinegar
1 tablespoon sugar
1/2 teaspoon ground mustard
1/4 teaspoon pepper
4 s torn salad greens
1/2 cup sliced almonds
2 hard-cooked eggs, sliced

Directions

1. In a skillet, cook bacon until crisp; remove with a slotted spoon to paper towel. Drain, reserving 2-3 tablespoons drippings.

2. Cut asparagus into 1-1/2-in. pieces; saute in drippings until crisp-tender. Add vinegar, sugar, mustard, pepper and bacon. Cook and stir for 1-2 minutes.

3. In a large bowl, combine the salad greens and almonds. Add the asparagus mixture and toss gentl Top with eggs. Serve immediately.