

Plant Science Says



Merry Christmas!

Vol. 10, Number 11

December, 2007

Departmental Christmas Party



The Departmental Christmas party will be on Friday, December 14, at 5:30 p.m. at the Bozeman Senior Center. Dinner will be at 5:45 p.m. and then Bingo.

Santa will be showing up around 7:15 p.m. Please bring one of the following to share: Hors d'oeuvres, a vegetable or potato

dish, salad or dessert. The meat, rolls, and drinks (non-alcoholic due to this being a) will be provided. Please join us!

Moore-Gough Appointed to Advisory Council



Gov. Brian Schweitzer has appointed Cheryl Moore-Gough to the Correctional Enterprises Advisory Council for a two-year term. Montana Correctional Enterprises, which is a part of the Department of Corrections,

provides work and training programs for eligible inmates. The programs include manufacturing furniture and license plates as well as agricultural endeavors and accounting. Moore-Gough, the Montana State

University Extension horticulturist in the Plant Sciences and Plant Pathology Department, said she expects to advise on the feasibility of training inmates to grow vegetables, both for their own consumption and to be used in a cannery within the Montana Correctional System.

Pursuing Patagonia By Gary Strobel

A few years ago we did a plant collecting trip to the Chilean side of Patagonia and in November we did a trip down most of the east side of the Andes in what is known as Patagonia. Basically Patagonia is the last 1000 miles of South America and was given the name by early Spanish explorer's when they saw large footprints in the snow and they assumed the people had huge feet. But lo, it was only the case that the locals had wrapped their feet in guanaco skins to keep their feet warm and thus the imprints in the snow made huge deep impressions.



The Patagonian Notro, a Protea, dots the landscape of southern Patagonia.

The land was once a part of ancient Gondwanaland and evidence of the ancient southern Beech forests is everywhere. Mixed with the Nothofagus species are various Proteas such as Notro and other species from ancient plant families.

Our journey began in San Carlos de Bariloche, a famous ski area in the central Andes of Argentina. From there we headed south in a bus mounted on a truck chassis.



The Tohol truck/bus that was our travel home for several weeks.

The main goal of the trip was to collect various specimens of the Patagonian plant families that seem to be relatives of those plants that have been represented here for 200 million years. The concept is that such plants may have made microbial associations that are unique and unstudied. Ideally, the plants will yield up their secrets as they are studied more thoroughly in the lab at MSU.

The Patagonian landscape of the well watered north in the temperate rainforest eventually gave way to barren rolling hills of central Patagonia reminding me of eastern Montana. Our trek was over 1200 miles on famous Rt 40 which is almost all dirt road. We eventually came across the hide out of Butch Cassidy and the Sundance kid south of El Bolson. A nice ranchette, but how these folks made it all of the way to this place is beyond me!

Then thunck!! A rock flew up and punctured the line leading to the hydraulic brake and the vehicle came to a grinding halt in the middle of Patagonia. The wind was howling a

50-60 mph and it was 5 miles to the closest ranch. No cars, buses, or trucks were seen on the road to provide help. We hiked all of the way to the ranch, where we stayed for a few days. Near the ranch is a slot canyon with ancient hand paintings from 7,000 years ago. It was a marvel to see them. One can only wonder who made them and why??



Some of the hand paintings in the Cueva de los Manos of the Rio Pinturas

The rancher did not shoot or control the guanacos that wandered his lands which is great. But he did do some cougar control



Guanacos of Patagonia-their fur is the best of all available animal fur in the world and now they are being domesticated for this purpose.





The Andean Condor with its 10 ft wing span.



ElChalten or Mt Fitzroy with its southern Beech forests.

Our journey continued south after the bus was fixed. We entered the country of the Southern Beech at El Chalten better known as Mt Fitz Roy which is the logo of the patagonia outdoor clothing company. Such a sight I have never before beheld.



Finally, we ended the trip at El Califate near the Moreno Glacier in Southern Patagonia. This glacier is only one of many that feed into the landscape from the great icefield of South America which represents the third largest ice field in the world. This glacier

moves at the rate of 1.5 meters a day. And it is one of the few in the world that is not receding.

It is also interesting that the southern beech forests are found immediately next to the glacier which is not a frequent occurrence in the world. Ultimately, many samples were obtained and it will be months or years before we know if the trip was a success from a scientific point of view. But otherwise, this was one of the great rips of my life.

BIC/NAPIA conference

By Rachel Leisso

November 1st and 2nd, Dr. Mary Burrows, Dr. Norm Weeden and I represented PSPP at the 50th anniversary conference of the North American Pulse Improvement Association (NAPIA) in Madison, Wisconsin. I was fortunate to have the opportunity to present a summary of our field research from this summer in a talk entitled "Integration of Biocontrol and Fungicide Seed Treatments for Management of Chickpea Pre-Emergence Damping-Off." Norm Weeden presented "The Genetic Basis of Fusarium Root Rot Tolerance in the 'Afghanistan' Pea." Research updates from our colleagues were valuable for me to expand my perspective of pulse crop production from solely Montana to a more global vision. The diversity of research studies and the number of chickpea projects was encouraging.

Visiting Madison felt like a sort of homecoming for both Mary and I, as we have both have obtained degrees from the University of Wisconsin; Mary her doctorate and I my baccalaureate. It was great for us to see colleagues and friends still in Madison both at the conference and outside of it. At the conference, Bob Rand, who has worked for many years with Dr. Walt Stevenson at UW-Madison, gave a memorial speech for Dr. Donald Hagedorn, who founded NAPIA fifty years ago and had passed away this past spring. This was especially meaningful to me, as both Bob Rand and Dr. Hagedorn were instrumental during my undergraduate days in the Plant Pathology department at Madison.

It was an educational and interesting trip, and I am grateful to all who made the trip possible and who have helped with my learning and work at MSU.

MAES Schedule

Following is the schedule for MAES presentations for December:

Cathy Cripps

"Mycology in Montana"

Tuesday, Dec. 4, 9:00 a.m., 108 PBB

Mary Burrows

"Management of diseases in Montana crops"

Thursday, Dec. 13, 9:00 a.m., 108 PBB

Growing a Christmas Cactus

By Cheryl Moore Gough



Zygocactus truncatus is a Brazilian native like its close cousin the crab or lobster cactus. Both are sometimes called Thanksgiving cactus or Christmas

cactus since they flower from Thanksgiving to Christmas. Its leaves have long teeth along the edges of each segment. A similar plant, Easter cactus (*Schlumbergera bridgessii*), is not the same thing, and has leaves with rounded segments. This plant flowers from Christmas to Easter. Both species normally bloom in April in their native land, but that's 6 months out of sync with the US. Hence, they bloom in the fall and winter here. In the tropics the plants normally go through a drier rest period, followed by a wetter "rainy" season before flowering. Duplicate these conditions and the plants will flower for you.

Both plants must be potted in well-drained soil and receive only an occasional light application of fertilizer. Once they are established, ease off the watering from August to November. Don't let them dry out completely, but do put them under severe drought conditions.

Place your plants in a cool (50 to 55 degrees F) window where they will get no artificial light after mid-September. Be sure the room

is cool; these plants set no flower buds when night temperatures are above 70 degrees F. When flower buds have set and become well-developed, bring the plants into a warmer area and give them plenty of water. Don't fertilize until after bloom is completed.

If you follow the above directions, Christmas cactus should bloom during the late fall or early winter. Flower buds of Easter cactus develop more slowly and the plants bloom about mid-winter.

After flowering, the plants produce new vegetative growth upon which will develop flower buds for next year. Water and fertilize the plants well during this stage of growth. Then, about mid-August, withhold the water and fertilizer once again to force flower buds to set.

These plants rarely experience pest problems. About the only thing that sometimes occurs is flower bud drop. This is usually caused by too much water, not enough water, or radical change in the plant's environment, such as bringing it from a warm moist greenhouse into the home all at once.

Both plants bloom best if potbound.

Bob's Byte

By Bob Johnston

Here is another thing to worry about as the holidays approach – Discount Electronics Scams.



Here is how the scam works.

- Post a phony web site with popular items offered for a very cheap price. These look identical to the real thing, with easily accessed lists of products, organized by type, manufacturer information, enlargeable pictures, privacy and return policies, and even contact information. Check out a phony site at YourDigitalElectronics.com. Note that the site even has phony authentication certificates.
- Require a minimum purchase
- Only accept money orders which are mailed to an overseas address

- Never have a real person answer the phone – Use an answering machine instead.

How do you protect yourself?

- If the prices seem too good to be true, they probably are.
- Scan the site for grammar and spelling error – pay close attention to the return policy for errors
- Look for addresses and copy them into Google maps. Many times the site is an empty lot or motel.
- Never send cash, checks or money orders for a purchase.
- Phone the local Better Business Bureau.
- Copy the web address into the Whois Query box at this address: <http://www.webyield.net/domainquery.html> If the owner is hidden by company such as PrivacyProtect.org, be real suspicious than the web site is a fraudulent site.
- Go to <http://www.resellerratings.com/> and see if the site is listed.
- Never pay more than you can afford to lose.

Be careful out there!!

Recipe of the Month

Double Cherry Oatmeal Cookie Bars

(These were served at the Friday Coffee about a month ago and are very good)

¾ c reserved oatmeal cookie crust (recipe below)

¾ c sliced unbalanced almonds

4 c stemmed, pitted sour cherries (fresh or frozen)

1 c sugar

¼ c cornstarch

¼ c lemon juice

½ t almond extract

1 c dried sour cherries

Stir almonds into the reserved oatmeal mixture; set aside. Combine sugar, cornstarch, lemon juice and sour cherries (with juice) in medium sized saucepan and cook until thickened. Stir in dried cherries and let sit for 10 minutes. Press oatmeal crust mixture firmly into an even layer on bottom of pan (remember to keep ¾ cup for

topping). Spread cooked cherry mixture over crust and top with the ¾ reserved oatmeal mixture mixed with the ¾ c of sliced almonds. Bake for 35 minutes in a preheated 375 F. oven.

Oatmeal Cookie Crust

1 ½ c old fashioned oatmeal, uncooked

1 c all-purpose flour

½ c firmly packed brown sugar

½ t baking soda

¼ t salt (optional)

8 T (1 stick) plus 2 T butter, melted

Spray bottom and sides of 9x13 glass baking pan with cooking spray. In large bowl, combine oats, flour, sugar, baking soda and salt. Mix well. Stir in melted butter; mix well. Reserve ¾ c for topping.

Brining Recipe for Turkey

By Bobby Bear

One qt. vegetable stock - chilled.

1/2 Cup Kosher Salt

1/4 Cup dark brown sugar

1 tsp black pepper corns

2 bay leaves

1 qt. OJ, chilled

Bring to a boil two cups of stock, add salt, brown sugar, peppercorns and bayleaves. Stir till salt and sugar are dissolved.

In a clean bucket, cooler or whatever, add everything else plus two quarts of ice water. Stick in the bird and brine for 24 to 48 hours. If the bird is not covered by the brine, shift it from time to time so it all gets in contact with the brine. Keep it in a cold place, 40 degrees or less while brining.

When you are done brining, take the bird out and cook it however you like. Toss the brine!

December Birthdays

Ted Clack 3

Bill Grey 4

Nancy Blake 6

Jackie Campbell 11

Jack Meyer 19

Will Lanier 20

Cathy Seibert 21

Elena Kalinina 21



Cheryl Moore-Gough	23
Sue Brumfield	26
Lucy Cooke	30

*Once again, it has been great
working for all of
you this year. We
wish each of you a
very Merry
Christmas and a
Happy New Year!
Bobby, John D.,
Joanna and Irene*

