Change. Sometimes the only constant we have in life is change, and in our fast-paced society change seems to become our culture. This past week we celebrated the 10th anniversary of the Department of Plant Agriculture. The event was well attended and there was a real feeling of community in the room. We recognized some recent changes in the department including John O’Sullivan who has retired from the department (but is still working on projects at Simcoe), Tannis Slimmon who has taken on a new job in CBS, and Carole Bouteau, Marnie Webb and Linda Corso from FSN who have made a successful transition to become part of the Centre for Research in Food Safety. We also recognized Clarence Swanton who as inaugural chair steered the department through a period of tumultuous change, bringing us to the point of being a highly effective and communal department. But change never ends. The good news is that sometimes change can be for the better and like the long awaited coming of spring this year we will this spring be able to celebrate the long awaited renewal of the OMAFRA-U of G agreement. And it is good change because the agreement is significantly enhanced. For Plant Agriculture, which is very heavily invested in the agreement, this change will mean increased capacity and opportunity for our department. The enhancement of the agreement signifies the government’s recognition of the value of what we do and given the extent to which our department is involved in the agreement I take it as a specific endorsement of the value of efforts and expertise in Plant Agriculture. So change can be both good and bad, but it is constant. Our challenge is to remain positive when change is bad and to capture the opportunities when change is good. After 10 years our department has demonstrated an expert ability to be effective in a culture of change, and that ability will remain a key to our success.
Welcome to new graduate students
Gloria Iriarte, M.Sc. (Dr. E. Lee/Dr. M. Tollenaar)
Glenn Alejar, M.Sc. (Dr. L. Kott)
Diego Cerrudo, M.Sc. (Dr. M. Tollenaar)
We welcome you and hope that you find your time here to be very rewarding (and lots of fun too!!)

Calendar
In January, the GSLC put out a call for the best research pictures from the various programs Plant Agriculture with the goal to produce a calendar to showcase the great work and people that come out of the department of Plant Agriculture. Pictures were submitted from almost all programs, as well as from a range of students, staff and faculty. These pictures are currently being examined by panel of expert judges who will select the first place photo, to be featured on the cover, and the runners up. The calendar will be available for purchase at a reasonable cost later this summer, with all proceeds going to the New Graduate Student BBQ put on annually by the GSLC.

New Ph.D. Rep
The Graduate Students have elected Andrew Burt as the new Ph.D. rep to the GSLC. Eric Page has handed the torch to Andrew after serving as Ph.D. rep for the last year. Our congratulations to Andrew, who will no doubt be an excellent representative for the Ph.D. students. A call for nominations for a new M.Sc. Rep will be held later in the spring.

Congratulations to David Johnston Monje who has recently been awarded a 2008 Gordon Nixon Leadership Award. This award worth $2000 is to support team registration and enrolment in the 2008 International Genetically Engineered Machines Competition to be held at MIT in November. David’s project which he is doing with a group of students from outside the Department is entitled “Bringing Agriculture and Sustainability to Synthetic Biology”.

The International Genetically Engineered Machines Competition is an annual, worldwide competition that involves undergraduate and graduate students in synthetic biology. Student teams compete to design and assemble engineered machines using advanced genetic components and technologies. The competition began in 2004 and since that time the number of teams involved has grown dramatically.

The Gordon Nixon Leadership Award is given annually by Alumni Affairs and Development.

Best of luck David in this exciting competition!

Congratulations to Stela Balint who won first prize in the poster competition at the Ontario Fruit and Vegetable Convention held at Brock University. Stela’s poster was entitled “Biological Control Agents Contans and Rootshield Contribute to the Mortality of Slerotia of Sclerotium cepivorum, the Causal Agent of Onion White Rot”. Well done Stela!!

Graduate Student Liaison Committee News

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I grew up in Newbury, Ontario - a town of 400 people in the middle of Skunks’ Misery (a Carolinian forest area). My family has been in the town for five generations now. The area that I am from is a farming community and have been around agriculture all of my life. I have a younger brother, one very large cat, and a hamster living with my parents. My mother is retired after 35 years of nursing, my father is a real estate broker, and my brother is an auto mechanic, as well as a drummer with Shot Down Army.

I fell in love with genetics in high school and decided to obtain a degree in biology. I received an Honours BSc in biology with a General BSc in psychology, a minor in chemistry and the co-op option from Wilfrid Laurier University. It was during my undergrad that I realized that molecular biology was my calling. I started working as a co-op student in a plant molecular lab at WLU, and that was when I decided that I wanted to pursue graduate studies. I am currently working on my MSc degree with Dr. Istvan Rajcan as part of the BioCar Initiative. I plan on pursuing a PhD and would like to one day become a professor.

I enjoy reading novels, hiking, camping, and creating hand crafts, as well as baking, in my spare time. I have been a member of Girl Guides of Canada for 20 years.

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I grew up on a quarter acre farm 10 minutes north of the Toronto city limits. There I learned how to cut lawns, rake leaves, pick weeds and take care of my 3 cherry tomato plants. Ok, so maybe it was not a farm, but being a grad student in Plant Agriculture at Guelph University, I felt like he had to mention some crop husbandry in my upbringing. I actually lived quite a typical city life, where I enjoyed playing sports (basketball and golf), and burying my nose in books (or was it a GameBoy?). Although my environment was quite normal, my interest in plant science never seemed to be. I remember being the only person in my high-school biology classes who did projects on plants, and the only person I am aware of who was already interested in pursuing a career in plant sciences during my first two years of undergrad studies here at Guelph.

In the summer of 2006 and throughout 2007 I was fortunate enough to get a summer research position, and do my 4th year undergrad research project in Dr. Barry Shelp’s laboratory. There, I studied the kinetics of an enzyme involved in plant stress responses. As my involvement and interest in the story behind the enzyme and its role in plants grew, I decided to pursue my master’s in Dr. Shelp’s lab.

You can usually find me pushing trays of mutant Arabidopsis though the halls of the Bovey Building. In my spare time I enjoy playing golf, working outside in my garden, and catching a good game on the television. When I finally get out of Guelph in two years, I hope to pursue a PhD in plant science.
My official name is Mehrzad but everyone knows me as Milad. Both of them have the same meaning in Persian language. They mean who received his life from Sun. So it could be a good reason why I am interested in studying plants!

I was born and grew up in Arsenjan, a city in the south part of Persia (Iran). I received my BSc in Agronomy and Plant breeding in 1995. After I completed my MSc in Plant Breeding in 1999, I got married to my lovely wife, Mina, and I came back to my city as an instructor in the Department of Crop Science at the Islamic Azad University, working there until 2006 when we moved to Canada. Although Guelph University is a well-known university across the world and in my country as well, especially the Plant Agriculture Department, and every one could be interested in studying at this university, I would like to say that having a chance to meet Prof. Ken J. Kasha during my Master’s studies in my back home country was another encouraging factor for me to pursue my PhD program at University of Guelph.

I am working with Dr. Istvan Rajcan to improve high oil soybean varieties. My research project focuses on identification and characterization of quantitative trait loci associated with variation of the oil content trait in soybean.

My hobbies are playing soccer and billiard, and also listening to Iranian traditional music.

I would like to thank Dr. Istvan Rajcan for giving me this opportunity to be a member of his research group. I would also like to thank the faculty and cooperative staff of the Plant Agriculture Department.

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Student Presentations

At the Ne/NC Corn Improvement Conference held in Maryland, Feb. 26-27, Travis Coleman, Andrea Chambers, Raja Khanal and Eric Page all presented talks:


The 50th Annual Maize Genetics Meetings were also held in February in Washington DC. The students above all presented posters along with Andrew Burt, whose poster was entitled: Complementary sources of a high-lutein phenotype in yellow dent bred lines.  A.J. Burt, B.J. Shelp & E.A. Lee.
I was born and raised in Toronto, and am the eldest of three children. My interest in science and horticulture began at a young age. It is possible to think that living in a city like Toronto and working with fruits and vegetables is out of the ordinary, but having grown up in a European household, there was a visible link with horticulture. Almost every backyard in my neighbourhood had more than a few fruit trees and a modest vegetable patch. Every year, there was a communal harvest of cherries, peaches, plums, apricots, cucumbers, peppers, eggplants, and who can forget...tomatoes! And if it wasn’t growing in our neighbourhood, there were weekend trips to local farms to hand-pick what we were not able to grow. The intrigue of science began with the chance to compete in the grade school science fair, which is where I made by best attempt at designing a high-speed model elevator out of bits of scrap wood, an old refrigerator motor, some old laundry wire pulley wheels, and a car fan belt from Canadian tire. After many failed attempts, I finally had a fully functioning elevator model, and displayed my project at a regional fair.

I enrolled in the Faculty of Science at York University, and chose the biological sciences as my stream of interest. It wasn’t until my 3rd and 4th years, that I began to focus on plant science courses. A course on Plant Physiology taught by Dr. Brian Colman peaked my interest and I began thinking about a career in scientific research. I completed my BSc (Hons) and in the fall of 1997, enrolled in the graduate program for Biology at York University. Together with Dr. Colman and Yusuke Matsuda, a postdoctoral associate from Japan, I continued with studies in plant physiology by doing an MSc thesis, investigating inorganic carbon concentrating mechanisms in carbon-limited green algae.

During the summer of 1999, I started to think about possible PhD studies. During a conversation with Dr. Rob Mullen, a faculty member in the Biology Department at that time, I mentioned that I wanted to continue on with graduate studies in a lab studying primary metabolism and environmental stress responses. Rob encouraged me to contact Bill Plaxton at Queen’s University in Kingston. The next year, I moved to Kingston, and started purifying purple acid phosphatases from phosphate-limited tomato suspension cell cultures. It was quite gratifying once we found out that the biochemical response we found in cell cultures also occurred in phosphate stressed tomato plants. Under Bill’s supervision, I gained expertise in enzyme biochemistry and completed my PhD thesis in the characterization of these biochemical mechanisms present in tomato that were induced during phosphate-limited growth. It was also at this point that I started to consider the possibility of an academic career.

At a CSPP meeting in Calgary, a chance meeting with Dr. Andrew Hanson afforded me the possibility of doing postdoctoral research in the Dept of Horticultural Sciences at the University of Florida.

The move to Gainesville was a tremendous experience, having worked in a world-class plant biochemistry and metabolism lab. It was here that I had the opportunity to work in a dynamic department with many international research scientists, with whom I made some great friendships. In Andrew’s lab, I carried out my postdoctoral studies on the enzymatic mechanisms involved in the salvage of folate degradation products, a biochemical mechanism present in many horticultural plants. Also, together with Aymerick Eudes, we were able to isolate the gene and characterize the biochemical component for esterification of the
Dr. Mary Ruth McDonald  
Carrot Research  

In the Spring 2008 edition of Carrot Country, Dr. Mary Ruth McDonald and her research team are prominently featured on the cover and with an indepth article entitled “Research on Diseases and Insect Pests of Carrots in Ontario. Pictured below from left are: Kevin VanderKooi, Catarina Saude, Shawn Janse, Mary Ruth McDonald, Michael Tesfaendrias and Laura Riches. Dr. McDonald conducts her research at the Muck Crops Research Station in the Bradford/Hollands Marsh area.

Dr. Gale Bozzo (cont’d from page 4)

folate precursor, para-aminobenzoate in Arabidopsis. It was during my three years in Gainesville that I became interested in the study of the biochemical preservation and modification of plant vitamins and antioxidants in postharvest processes.

Here at Guelph, I am looking forward to working together with faculty and students on grower issues related to quality preservation of horticultural products. At the same time, the new position is a great opportunity to investigate challenging and novel processes of secondary metabolism, and to engage the interest of students. Also, the move to Guelph allows me the chance to sharpen up on my rusty hockey skills and to enjoy the great outdoors.
During reading week 2008 (Feb. 18-25th) a group of nine students and I toured through the agricultural regions of Belize. Belize, formerly British Honduras, is located in central America south of Mexico on the gulf coast and is bordered by Guatemala (to the west) and Honduras (to the south). Belize is a small country but is full of interesting contrasts. The coastal area is a very low flood plain and has been severely damaged in past years by different hurricanes. The capital city was located on the coast but had to be relocated to the interior on higher ground. Traveling inland the elevation increases and the scrub vegetation of the coastal plains gradually changes to a savannah, pine savannah and finally tropical jungles. The interior is mountainous with some fertile valleys where much of the agricultural production is located.

The first area we visited was San Ignacio close to the western border. This is one of the main agricultural regions. We visited a very rural village in the mountains to witness subsistence conditions and this was contrasted to Spanish Lookout which was settled by a group of Canadian Mennonites in 1958. They have created a very vibrant agricultural community over the last 50 years where jungle once covered the lands. The feed mill and dairy farm we visited were both very modern. The cattle were mostly Holstein with some Brahman in their lineage. The Brahman genetics confers heat tolerance and resistance to parasites - two factors that make production in the tropics difficult. The ‘barn’ was open on four sides and some operations use foggers to help decrease heat stress. Waste from the orange processing plants is a main feed source when available.

Many of the beef cattle are closer to the Brahman breed and are raised on pastures. Fast growing native grasses are grown for feed but are low in protein. The Brahman meat tends to be flavorful but tough so beef is imported for the tourist trade. Milk production is about 50% of Canadian levels. Animal care is provided by the equivalent of a vet technician who is highly trained and knowledgeable about drugs, diseases and rations. He provides services thorough the local feed mill.

On the trip to Punta Gorda area in the south we saw citrus, banana, hot sauce and ornamental production. Citrus is grown
in the fertile valleys of the south and much of the production is processed into juice for Tropicana. Belizean orange juice is valued for its rich color. The Belize Citrus Growers Association has a strong presence in the region and controls the planting stock to prevent the introduction and spread of diseases (eg. Citrus canker) that affect other citrus regions (eg. Florida). The Association has some sophisticated facilities to produce and grow the disease-free rootstocks and scion wood. The young trees are provided to growers at a very modest charge. Did you know that ‘juice’ oranges have a green outer color?

In the same area, we found some very large banana plantations. Banana production is controlled by the multi-nationals (Chiquita or Dole) and is a highly specialized industry. Once harvested, the bananas are separated into bunches, boxed and transported to a deep water port on the coast for export. The harvested product is shipped within hours of picking. The bananas are picked green and ripen in transit and in special controlled atmosphere chambers at the warehouse destinations.

Both the banana and citrus industries employ significant numbers of local people but wages are extremely low.

Ornamental plants were one of the themes of the trip and we were able to visit a botanical garden and a commercial nursery operation. Duplooy’s Botanical Garden and Resort was carved out of the mountain jungles and hosted a mature collection of native plants of Belize. Many of the plants have medicinal uses such as healing wounds or controlling coughs while others act as birth control compounds or the equivalent of Viagra. Our guide told us that extracts from the latter two plants are often taken without the knowledge of the spouse. Interestingly, there were a couple of species that had symbiotic relationships with ants. In one species, the ants live in tunnels in the branches and feed off plant exudates. In return, the ants ‘remove’ any other plants or animals that encroach on their host’s territory. Belize is famous for its plant genetic diversity, especially orchids. They can be found everywhere in the forested areas and the "black" orchid is the native flower. Duplooys maintains and propagates an extensive collection of orchids to protect and maintain that diversity. One of the more surprising aspects of the vegetation was the size of plants relative to their age. Trees that we guessed to be 30-40 years old were only 10-15 years old due to their rapid growth rate. The same thing was observed at the commercial nursery. Container grown plants that we guessed were 2-3 years old were only 6 months old. The problem experienced by this industry is selling the material before it becomes too large. This nursery produced plants that were mainly used by resorts and the higher income locals. There was a broad range of species available with an emphasis on native material (of course). Just walking through the rows of flowering container plants was a wonderful experience. The information we were able to gain suggested that Belize is not an exporter of
nursery material but could be.

Mayan agriculture was another theme of the trip. This important learning experience started with a visit to the Mayan ruins at Xunantunich. The Mayan civilization was spread throughout Central America with concentrations in the Yucatan Peninsula of Mexico and neighboring Belize. The central temple at Xunantunich is the largest man made structure in Belize. It sits on a mountain top and is visible for miles in all directions (for strategic value).

Approximately 10-13,000 people lived in Xunantunich and the surrounding area during the peak of the civilization. This and many sites were abandoned around 900 AD. These sites were rapidly over grown by the jungle and were ‘lost’ for many centuries. Archeologists believe there are many undiscovered sites in the region. Mayan civilization was sophisticated and there is great controversy and speculation about its failure. One of the contributing factors was the unsustainable production practices of slash and burn agriculture that could not support a large population.

Fast-forward to 2008 and an overnight stay in the Mayan village of San Miguel (population 530). What a contrast to the rest of the visit. The students and I stayed in a ‘guest hut’ with thatched roof, board walls and shutters for windows. We were divided in groups of two or three to eat our meals in the homes of our Mayan hosts. The meals were prepared over wood fired special ovens on the cement or dirt floors. The meals consisted of home grown fruits and vegetables and a small amount of chicken - very tasty. Freshly cooked tortillas were served with every meal. A favorite drink was cacao based and was served warm. It didn’t have the flavor that we normally associated with processed chocolate.

The Mayans practice ‘milpa’ farming where several crops are grown simultaneously in the hills and lands surrounding the village. The crops they are growing include corn, dry beans, papaya, sugar cane, tomato, anatto bean and cilantro. Individual fruit trees are maintained in the village. Non-edible beans are interplanted (for a nitrogen source) with the corn which is grown in hills of 4-5 plants.
All stalks etc. are returned to the soil surface to reduce erosion. The corn was a Guatemalan land race that was about 2.2 metres tall and carried one small ear. No fertilizer or chemicals were applied and the crop appeared deficient in all nutrients. Many of the fields were located on steep hill sides that we would say were impossible to cultivate. The machete is the universal tool as it is used to weed, prune and harvest. There were no machines available and only donkeys or horses could be used to move the crop out of the fields. This was not slash and burn agriculture and the fields were kept in production for many years. Only rotation with other crops was used to rejuvenate the soil. Planting and harvesting were still timed with the ancient Mayan calendar. There is no doubt that this is a hard life by our standards but the people appear content with their lives. Great emphasis is placed on family and support for the rest of the village. Education is mandatory to Grade 8. There is a tuition fee for high school and many families sacrifice to see that their children receive as much education as possible. Surprisingly, these rural villages are serviced by a daily bus system that can take people to school and work. The village had a herd of 30 beef cattle (Brahman crosses) that they raised and sold for income. The cattle were contained in nearby fenced pastures. All other animals were free range. It was common to see the animals hanging around doorways looking for scraps etc. (As an aside, this country seems to have as many dogs as they do people).

The visit to the village and interaction with the Mayan people had a profound influence on the students. In their diaries, they have all commented on the luxury of their lifestyle compared to their Mayan hosts. This was probably the greatest learning experience of the trip.

Academically this was an excellent opportunity for the students and the trip far exceeded their expectations. The diversity of species and agricultural systems that was observed formed a significant experience for the students. Of course, the opportunity to interact with Belizeans on a daily basis was welcomed and appreciated by all.

The nine students on the tour were from Animal Science, Honours Agriculture, Plant Biology, Horticulture and International Development. Early in the course, the students were given responsibility for their own learning. During the trip it was very rewarding to see the students sharing their knowledge to help their fellow students fully appreciate the many aspects of the trip.

You can check out some of our other experiences on our blog at www.belize.canact.ca
The Dept. of Plant Agriculture was well-represented this year at Canada Blooms, the spring garden show held March 12-16 at the Metro Toronto Convention Centre. A University of Guelph display booth promoting programs within OAC, particularly at Ridgetown and the Dept. of Plant Agriculture at Guelph, the Arboretum, as well as the Office of Open Learning, was visited by hundreds of people over the 5 days of the show. This year Canada Blooms coincided with March Break, which meant that many of the visitors to the booth were school-age - future students of the Department? A big hit at the booth for all ages was a display demonstrating how plants can “use up” CO2 when photosynthesizing; although enjoyed greatly by the youngsters, it seemed to be the adults that were the most amazed at how quickly the plants were able to reduce the CO2 levels - several exclaimed that they were definitely going to plant a tree! A display of a “living wall” created by Rodger Tschanz out of bulb crates attracted a lot of attention from the older gardeners. Everyone visiting was given a seed packet of native flowers with Plant Ag’s name and the ‘HortLinks’ website printed on it for future reference. A wide variety of brochures about programs within OAC and the campus in general were also available for pickup. Thanks also, to Flowers Canada (Ontario) for providing an attractive ‘Pick Ontario’ gerbera display for our booth.

Once again, Rodger Tschanz, coordinator of the Guelph Trial Garden (GTG) and technician in the Dept. of Plant Agriculture, was invited by Canada Blooms to speak to a general audience during the show about what is new and interesting at the Guelph Trial Garden. About 75 people listened to Rodger’s 45 minute presentation about the various trialing programs at the GTG, what plants were new or unusual, what did well under Guelph’s growing conditions and what were favourites of visitors to the GTG. Afterwards, a booth was provided where audience members were able to quiz Rodger on a variety of gardening topics, including what to do about those lily beetles!

The departmental display was a success again this year thanks to the input of many people from the Department; special mention should be made of Hugh Earl for the CO2/photosynthesis display, Rodger Tschanz for setup, and Dietmar Scholz, Erik Landry, Mary-Jane Clark, Mary Robison, several Hort Club members and Rodger Tschanz for manning the booth during the show. Thanks to everyone for presenting such a positive image of the Dept at Canada’s largest annual garden show!
As part of the recent strategic planning process, a recommendation was made that staff be given the opportunity at an annual workshop to get together and comment on operational aspects of the department: “The Workshop will enable staff to provide the Department with innovative ideas for improving the operations of the Department.” 2006-2011 Strategic Plan, p.9/4.6

On February 27 the first “Feed Forward” staff workshop was held at the Guelph Turfgrass Institute. Approximately 45 full-time and temporary staff were present. The workshop was ably facilitated by Lynda Pinnington who provided direction and kept everyone on track. Lynda had the group first focus on what was going well. It was good to see that many appreciated the Department, and felt that in general there was a good and cooperative attitude among the staff.

After lunch the focus switched to what could be improved. A number of committees were suggested (to be comprised of staff members) to address the relevant concerns and suggestions. Among the most mentioned ideas for improvement (not in order of priority) were:

1. Develop a staff/student manual.
2. Set up an inventory of equipment within the department with pertinent information attached
3. Environmental/recycling issues, esp. as it related to biomaterials.
4. Improved communication
   - the Chair will meet with staff at each location on a semi-annual basis
   - improved and expanded video conferencing
   - opportunities to meet with staff in other locations and within other disciplines.
5. Work related training workshops

It is expected that the workshop will lead to practical improvements in the operations of a great department. The feeling at the end of the day was unanimous this should be an annual event.

The Department would like to thank the organizing committee: Ken Carey, Jenny Van de Kamer & Henk Wichers for organizing such a successful event.

You may have noticed the new Department of Plant Agriculture logo on the front page of the newsletter. After 10 years it was felt that it was time for a change. During the recent Feed Forward Workshop, the challenge was put forth to create a new logo for the Department. Submissions were requested from all staff, students and faculty and 23 creative submissions were entered. The committee, composed of Angela Hill, Asma Ziauddin, Byron Good, Ildiko Szucs, and Gale Bozzo met and narrowed the entries down to 3 finalists.

The committee then asked for input by way of votes from the entire department and the new logo chosen by the majority who voted is:

The committee and the Department thank everyone for their creative and talented submissions. Congratulations to Jonah Hu who submitted the winning entry, Jonah received a $100 gift certificate for his creativity. The new logo will begin appearing in Department publications in the near future.
The Annual College Royal Exhibition was held on the weekend of March 15-16. Plant Agriculture had displays in both the Crop Science and Bovey Buildings. The theme of this year’s exhibition was “Discover the Royal Difference”. Plant Agriculture’s exhibition in the Crop Science Building was anchored by a BioCar exhibit mounted by Milka Popov and Jennifer Fender. Featured products included a car tire, T-shirts, a blanket, upholstery, rugs, disposable cutlery, and plates, made of ramie, corn starch, and sugar. Bioproducts were mixed with commonly seen petroleum-based products, making it a guessing game. Visitors could also take a rest on the chairs made of wheat straw bio-composite, or examine products made of soybean oil: car bumper, car foam seat and a hockey puck. Some of the displayed items are a part of the Ontario BioCar Initiative project, led by the University of Guelph. The BioCar team also includes researchers from three other universities: University of Toronto, University of Waterloo and University of Windsor.

Other displays included an interactive photosynthesis model, a multi-crop plant breeding display, new crop developments and there was even a straw maze for the children—apparently only 2 got lost! The cereals group had ‘cat grass kits’, complete with seeds, soil, pots and instructions for kids (of all ages) to help their cats get through the winter in good health. There was also a display of barley mutants including albinos and pale green seedlings. Along with that, there was a display about the history of corn showing a modern corn hybrid plant next to a teosinte plant, which is ancestral corn.

The weeds team had lots of weeds specimens on display and Peter Smith did a fabulous job with the slide show that ran in the background. Javaid Iqbal set up a CO2/greenhouse gas demo which was interactive and received a lot of interest from visitors.

In the Bovey Building along with the Hort Club display, Liz Brauer and Shawn Clark were conducting tours of the research greenhouses, explaining the different research projects—everything from plantibodies to far red light and it’s effect on flowering time. They showed off the high-tech chambers which can control CO2 levels, and answered questions about GMOs, breeding and plant biology.

We would like to thank all those involved with the preparation, set up, and working at College Royal, with a very special thank you to Jim Hoare, whose help was invaluable, Jim went the extra mile to make sure that the Department was well represented at College Royal. We would also like to thank Jim Hassen at the Arkell Research Station for donating the straw bales for the maze. For more information please see: www.plant.uoguelph.ca/welcome/college_royal/
On March 20, 2008 we celebrated the 10th Anniversary of Plant Agriculture. After a weather delay in February, we were pleased to have about 70 people attend at the Victoria Park East Golf Club. The Department of Plant Agriculture was officially formed on February 1, 1998 amalgamating the Departments of Horticulture and Crop Science from the University of Guelph and the HRIO facilities at Simcoe and Vineland, making us a truly unique department within the University of Guelph. The wealth of talent that is present in the faculty, staff and students of the Department is phenomenal with 42 faculty members spread across 4 locations (Guelph, Simcoe, Vineland and Ridgetown). At the reception on March 20 we also recognized those who have left the Department recently, including Dr. John O’Sullivan who retired at the beginning of the year and Tannis Slimmon who is currently working in the new Science Complex, tending to the plants there with the loving care she always gave to the plants in Plant Agriculture. We were also happy to recognize members of the Food Safety Network who have now moved to the Food Science Department, located in the CRIFS facility. We were pleased that Carole Buteau, Marnie Webb and Linda Corso were able to attend, unfortunately Sarah Wilson and Rob Bowman were unable to come to the reception. We would like to thank all those who attended and here’s to the next 10 (or 100) years!

**Dr. John O’Sullivan**

Dr. John O’Sullivan received his B.Agr.Sc. and M.Ag.Sc. degrees from the University College, Dublin before going to the United States where he pursued his Ph.D. at the University of Wisconsin in 1973. After receiving his Ph.D. John accepted a position as research scientist at the HRIO station in Simcoe where he continued to work until the amalgamation of the University and HRIO. In 1998, John was transferred to Associate Professor status within the Department of Plant Agriculture. During his long and illustrious career at Simcoe John ran the largest Vegetable Weed Management program in Canada and one of the largest in North America. In 2000 John was appointed Director of the OMAFRA/University of Guelph’s Plant Research Program, a position he maintained until 2007, taking on as well Directorship of the BioProducts Research Program upon it’s inception in early 2005. While holding an administrative position, John continued to run a large weed management program at Simcoe which he still oversees. John’s Irish wit and humour is well known among his colleagues and apparently he plays a pretty mean game of golf as well! Congratulations John on your retirement, the Department is grateful for your many contributions and thanks you for your dedication over the span of your career.
Prof. Hiroyuki Hamada, one of the world leaders in composite biomaterial research, visited the University of Guelph on March 13-14, 2008. During his visit, hosted by Dr. Amar Mohanty, Dr. Hamada met with researchers involved in the Ontario BioCar Initiative project, representatives from the Ontario BioAuto Council and industry (Global Vehicle Systems Inc. and Oil Sands Development Inc.). As a part of the visit, Dr. Hamada gave a seminar “Recent Developments in Natural Fiber Composite Research at Kyoto Institute of Technology (KIT)”. In his presentation, Prof. Hamada discussed his results on continuous fiber-reinforced polylactic acid (PLA) and hybrid-fiber composites, fabricated via injection moulding technique.

Prof. Hamada’s main research areas are textile composites, long fiber-reinforced thermoplastic composites, sandwich injection moulding, biodegradable polymers, natural fiber composites and polymer nanocomposites. His current research interests include design of textile composites, crushing performance of composite materials, biodegradable polymers and their composites, green composites and biocomposites, polymer processing and degradation of composite materials. His overall goal is not only to develop value added structural composites, but also ensure their safe biodegradation.

Prof. Hamada’s research on bio-composite materials was initiated in collaboration with Dr. Mohanty. Their collaboration continues in the area of biobased structural composites for automotive applications, made from PLA and jute. As a part of this collaboration, Mr. Naoyuki Shikamoto, a MSc student in Advanced Fibre Science at KIT, is working in Dr. Mohanty’s lab. Mr. Shikamoto’s visit is supported by the grant from the Japan Society for the Promotion of Science.

Dr. Hamada is Professor and Head of the Department of Advanced Fibre Science, Kyoto Institute of Technology, Japan. He is also serving as the Director of Venture Laboratory and of Future-Applied Conventional Technology Center. He has published over 430 peer reviewed journal papers and is serving as editor in many international journals.

Dr. Amar Mohanty, Premier’s Research Chair in Biomaterials & Transportation, assumed his Professor position at the Department of Agriculture in January 2008. Dr. Mohanty is an international leader in biomaterials and bioproducts. Dr. Mohanty is the author of more than 250 publications, including 129 peer-reviewed journal papers; founder and editor-in-chief of the Journal of Biobased Materials and Bioenergy; and lead editor of the book Natural Fibers, Biopolymers and BioComposite. He holds six U.S. patents and has over 18 patent applications pending. For Plant Agriculture projects related to bioproducts, visit http://www.bioproductsatguelph.ca/index.html. We will have more indepth coverage on Dr. Mohanty and Dr. Misra in the next newsletter.
The *Ontario Fruit & Vegetable Convention* was held February 20 & 21 at Brock University in St. Catharines. The Department was well represented by a number of speakers:

**Dr. Sean Westerveld** led a session entitled Fertility Research on Specialty Crops in Ontario.

**Dr. Adam Dale's** talk was entitled Ensuring Quality Plants from the Ontario Plant Propagation Program.

**Dr. Darren Robinson** delivered a talk entitled “Fresh Market Peppers & Tomatoes—Weed Control Update.”

Plant Agriculture was the host for the 57th *Annual Muck Vegetable Grower’s Conference* on March 27 and 28 at the Holy Martyrs of Japan Catholic Church, Bradford, Ontario. The conference featured the latest production and crop protection information on a variety of crops as well as updates from various industry groups. A number of Plant Agriculture faculty, staff and graduate students presented talks during the 2 day event, including Mary Ruth McDonald, Kevin VanderKooi, Shawn Janse, Monica Parker, Stela Balint, Sean Westerveld and Clarence Swanton. Chairs of the various sessions included Sean Westerveld, Rene Van Acker and Rick Upfold.

**Dr. Amar Mohanty** was the invited speaker in OAC’s public lecture series on February 27, 2008. Dr. Mohanty’s presentation was entitled: “The New Agriculture: The Journey for a Sustainable Bioeconomy.”

**Dr. Elizabeth Lee** attended the NE/NC Corn Improvement Conference Linthicum MD Feb. 26-27 as well as the 50th Annual Maize Genetics Meetings, Washington DC Feb. Dr. Lee also visited *Illinois Corn Breeders’ School*, Champaign, Urbana Ill, March 2-4, where she gave an invited talk entitled “Perspectives on heterosis in maize – 100 years later”. Following that Dr. Elizabeth Lee attended the NE/NC Corn Improvement Conference Linthicum MD Feb. 26-27 as well as the 50th Annual Maize Genetics Meetings, Washington DC Feb.

**Dr. Adam Dale** attended the *International Strawberry Symposium* sponsored by the International Society for Horticultural Science in Huelva, Spain from 3-7 March. Dr. Dale gave a presentation entitled 'Fruiting Patterns of Northern-adapted Strawberry Populations in a mild Short-Day Environment.'

The *Weed Science Society of America* annual meeting was held in Chicago, Feb. 4-7, a number of Plant Agriculture faculty and graduate students attended this year’s meeting, as well as submitting abstracts and posters., including Peter Sikkema, Darren Robinson and Clarence Swanton.
The annual URA/USRA awards were announced recently. Plant Agriculture received 4 URA's and 8 USRA's, which were distributed as below: Students have been hired for these positions, I have included their names in brackets after the project title, please welcome them to Plant Ag. For the summer.

### URA

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<tr>
<th>Supervisor</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>Dr. E.A. Clark</td>
<td>Low Energy Approaches to Extending the Growing Season For Vegetables in Ontario (Fawn Turner)</td>
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<tr>
<td>Dr. D. Falk</td>
<td>Evaluation of Fusarium Head Blight in Breeding Resistant Wheat Varieties (Gareth Davis)</td>
</tr>
<tr>
<td>Dr. K. Jordan</td>
<td>Use of Reclaimed Water on Turfgrass Growth and Quality, Soil Properties and Soil Microbial Ecology (Karan Tsoi)</td>
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<tr>
<td>Dr. J.A. Sullivan</td>
<td>TBA (Matthew Crooks)</td>
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### USRA

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<th>Supervisor</th>
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<tr>
<td>Dr. K.P. Pauls</td>
<td>TBA (Brady Nash)</td>
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<tr>
<td>Dr. M. Raizada</td>
<td>Genetic Characterization of Wound-Induced Stem Cell Regeneration Responses in <em>Arabidopsis</em> Plants (Adrienne Davidson)</td>
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<tr>
<td>Dr. P. Saxena</td>
<td>Regulation of Plant Cell Division (Jennifer Spall)</td>
</tr>
<tr>
<td>Dr. B. Shelp</td>
<td>Identification of Arabidopsis Mutants with Altered GABA Transaminase Activity (Andrea Portt)</td>
</tr>
<tr>
<td>Dr. J. Subramanian</td>
<td>Molecular Biology of Disease Resistance During Fruit Ripening in <em>Prunus</em> spp. (Peter Alm)</td>
</tr>
<tr>
<td>Dr. C. Swanton</td>
<td>Exploring the Mechanisms Underlying the Critical Period for Weed Control in Corn and Soybeans (Scott Belyea)</td>
</tr>
<tr>
<td>Dr. M. Tollenaar</td>
<td>Stress Tolerance in Corn-Hydroponic Systems (Allison Paling)</td>
</tr>
<tr>
<td>Dr. D. Wolyn</td>
<td>Molecular Analysis of Mitochondria-to-Nucleus Signaling in Flower Development (Greg Baute)</td>
</tr>
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As email has grown at the University, both in number of users and the volume of messages per user, so have the demands placed on the infrastructure needed to support it. Introducing Zimbra, the new email and calendaring system for the University of Guelph.

Computing & Communications Services (CCS) anticipates it will be in use campus-wide by the end of May 2008. All email addresses will remain the same. Extensive pilot testing with approximately 250 participants from various user groups has been happening since February. After a long evaluation period that started in September 2007 and UoG finally making the choice, Zimbra was acquired by Yahoo.

Benefits of the new system include vastly increased storage capacity, much better support for mobile usage, drag and drop capability between email and calendar, easy-to-use appointment management and room booking, improved spam and virus filtering and generally better functionality.

Zimbra offers a true web interface that allows full functionality from anywhere, not just our desktop, but superior support for mobile devices. However, a user has the choice of using the web client, see below, or configuring more traditional e-mail clients such as Outlook or Thunderbird to access their UoG e-mail.
The Zimbra Web Client page includes the following areas:

1. **Browser Controls.** Shows the standard browser buttons, such as Home, the current address you are pointing to, and other features that may depend on your browser software and settings. The buttons on the browser bar are not part of the Zimbra Web Client and display for every Web page you visit.

2. **Search Bar, User Name and Quota Display.** The Search, Advanced Search, the user name under which you logged in and your mailbox quota are displayed in this area.

3. **Application Tabs.** The applications that you can access are listed in the tabs at the top. On the right is Help and Log Out.

4. **Toolbar.** Shows actions available for the application you are currently using. In this example, the Mail application toolbar is displayed.

5. **Overview Pane.** Displays your Folders, including the system folders Inbox, Sent, Drafts, Junk, and Trash, as well as any custom folders you may have created, Searches you may have saved, and Tags you created, Zimlet links that may have been created to integrate with third-party applications from within your mailbox. When you are in the Calendar application, the Overview pane displays your calendar list and Zimlets.

6. **A mini-calendar** can be displayed below the Overview pane. Displaying the mini-calendar is optional and can be enabled in Preferences, Calendar tab.

7. **Content Pane.** The content of this area changes depending on what application is in use. In the Inbox view, it displays all messages or conversations in your Inbox.

   Note – This layout may change slightly as CCS “fine tunes it” for their production version.

Lots more details are to follow from CCS, me and the other Plant Ag. IT support team in the near future regarding “in house” training sessions. There will also be an “early opt in” period for those want to check out this new system, check out:

http://www.uoguelph.ca/ccs/about/projects/email_cal/index.shtml

For more information on Zimbra, goto: http://www.zimbra.com/
The redesigned Library Homepage has some new features:

The new E-journals page now makes it possible to search our collection of electronic journals by 1. utilizing an A-Z title list, 2. browsing by subject (ex. There are 1160 agricultural e-journals further divided by subheading such as Plant Breeding and Plant Pathology), 3. utilizing an advanced search box feature, and 4. connecting directly with an article through use of a “citation linker. All these features make it easier to bring electronic references to your desktop.

The library is sponsoring and supporting a new e-journal, Studies by Undergraduate Researchers at Guelph. SURG is a refereed, multi-disciplinary e-journal that publishes research articles by University of Guelph undergraduate students. The mission of SURG is to provide undergraduate students with exposure to the academic publication process. Submissions are welcomed and encouraged from all disciplines.

http://quasar.lib.uoguelph.ca/index.php/surg/index  Deadline for the fall issue in May 16th.

RefWorks sign in can now be found under the library homepage heading “Create Bibliographies”. If you have yet to start using this citation manager classes are still being offered in the library on April 2, 10, and 18. Individual instruction is also available. If you are already using RefWorks Write-N-Cite version III is now available and can be downloaded from the “Tools” menu. This beta version corrects the incompatibility problems experienced with MS Word 2007, and Windows Vista.

The Library is purchasing RefShare which provides subscribing institutions and universities the ability to allow users to share their Refworks database or just specific folders from their RefWorks database with other users in their organization and in some cases even publicly. Certain users may also have permission to post their folders or databases on a shared page viewable by all RefWorks Users within their organization. Existing RefWorks users can export from a RefShared database or folder directly into their own RefWorks database. Look for this to be available this summer.

CABI e-books mentioned in the last newsletter are now available in beta by searching in the Library Catalogue under the title CABI ebooks. This brings up a list of titles to choose from. Some recent examples are; “Agricultural biotechnology and intellectual property: seeds of change”, “Ecologically based integrated pest management”, “Global development of organic agriculture: challenges and prospects”. Linking of the e version to our print CABI titles will be done as soon as possible.

Let me know if you notice any title or chapters that are not opening properly. Our subscription is only for 2005 publications to the present but at the moment we seem to have access to archived titles going back to 1999.

For further information about Library News please contact Judy Wanner – jwanner@uoguelph.ca
Biology Century presents a summary of knowledge of the Biological Sciences of the past 100 years. The site is organized around a set of major concepts of biology, starting in the first decade of the century with Bateson's coining of the term "genetics" and ending with the completion of the first complete characterization of the structure of the full hereditary structure (genome) of some simple organisms. Each major concept is broken down into smaller and more specific ideas. [http://home.comcast.net/~biologycentury/](http://home.comcast.net/~biologycentury/)

On-Line Biology Book [http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookTOC.html](http://www.emc.maricopa.edu/faculty/farabee/BIOBK/BioBookTOC.html)

This biology text of 59 chapters was created by Dr. Michael J. Farabee of Estrella Mountain Community College in Arizona. It represents Farabee's many years of teaching freshman biology and offers "introductory hypertext learning modules - modified lecture outlines - for a wide variety of biological topics." Educational use is encouraged.

BioTech [http://biotech.icmb.utexas.edu/](http://biotech.icmb.utexas.edu/) coming from the lab of Dr. Andrew Ellington lab at University of Texas at Austin. BioTech is a hybrid biology/chemistry educational resource and research tool. BioTech is intended to be a learning tool that will attract students and enrich the public's knowledge of biology issues and chemistry in the world today. At the same time, BioTech is also a research tool for those already involved in the broad subject of biology. The site includes an illustrated online Dictionary and a Chemical Acronyms Database.

MIT Open Courseware [http://ocw.mit.edu/OcwWeb/web/home/home/index.htm](http://ocw.mit.edu/OcwWeb/web/home/home/index.htm) In the spring of 2001 the Massachusetts Institute of Technology announced it would make the materials for nearly all its courses freely available on the Internet. Through this initiative MIT now shares free lecture notes, exams, and other resources from more than 1800 courses spanning MIT's entire graduate and undergraduate curriculum. Science courses include biology, ecology, and earth sciences. Biology Index -[http://ocw.mit.edu/OcwWeb/Biology/index.htm](http://ocw.mit.edu/OcwWeb/Biology/index.htm)

PlantsPedia [http://plantspedia.org/](http://plantspedia.org/) a free encyclopedia containing information on around 90,000 plants. Much of the information here is taken from Wikipedia and consolidated into one encyclopedia of plant information. As with Wikipedia it does not attribute all information but does include pictures, classification, references, and external links.
We’re adding this section for little tidbits that you may or not be aware of that are going on within the Department and/or University.

A refurbishing of room 202 in the Crop Science Building is now underway. After the departure of the Food Safety Network recently it was decided to turn 202 into a seminar/conference room that will hopefully be more conducive to student defences, large meetings, etc. than 307 currently is. The renovations are hopefully going to be completed by the end of April at which time the room will be available for bookings on a reserved basis, as is in place now for 307. As you will have noticed room 307 has been “spruced up” a little with new paint and seating, thanks to a donation by Rick Upfold.

New Department Websites:

In order to provide easy access to horticulturally-focused education and research-related web pages a new web site has been created by Mike Peppard called HortLinks. It can be reached by going to: www.plant.uoguelph.ca/hortlinks.

A new Potato Website has also been created on the Plant Agriculture site. This new site is full of information on all aspects of the potato program, including the history of the program, the research being done and is an excellent source of information for anyone looking for information on the program. The website can be accessed at: http://www.plant.uoguelph.ca/research/potato/index.html

Recently a pomology website has been established with extensive information on the program run by Dr. John Cline. The pomology website can be accessed at: http://www.plant.uoguelph.ca/treefruit/index.html

Congratulations to Angie Trivett on the birth of her second grandson. Mateo Antonio Trivett-Carreiro arrived on February 6 weighing in at a healthy 9 lbs 1 oz.
Parents, baby, big brother and proud Grandma all doing well!!

Congratulations to Greg Stewart, OMAFRA Corn Lead (housed in the Crop Science Building) on being named the recipient of the T.R. Hilliard Distinguished Agricultural Extension Award for 2007. Greg, as most of you know is a graduate of what was Crop Science and has been a fixture in the Department for many years. The T.R. Hilliard Distinguished Agricultural extension Award is given by the Alumni Foundation, University of Guelph. Greg is a most deserving recipient of this prestigious award.

With spring fast approaching, we will soon be welcoming a host of new summer students to the department. Please remember that it is imperative that Jen Kingswell receive the hiring information for these new workers in a timely manner so that they can be put on payroll as soon as they arrive.

OAC will have a new Dean effective August 1, 2008.

Dr. Rob Gordon has recently been appointed for a 5-year term. Dr. Gordon is currently professor and dean of research at the Nova Scotia Agricultural College. A graduate of IAC, Dr. Gordon is a leading authority on climate related issues in Canada and holds the Canada Research Chair in Agricultural Resource Management.
OAC is sponsoring the 21st Annual Teaching and Learning Innovations Conference, entitled The Scholarship of Teaching and Learning” on Wednesday, May 21 in Rozanski Hall. The conference aims to foster inquiry and share knowledge and practices about what improves learning in our classes. The conference will highlight strategies and ideas related to:

- making your research in teaching public
- examining disciplinary approaches in teaching and learning
- using teaching portfolios as part of reflective practice
- adopting and experiment with academic technologies
- engaging students through active learning strategies
- sharing results gathered from a classroom activity that will stimulate dialogue about effective teaching and learning practices.

For more information please see: www.tss.uoguelph.ca/tli
Coming in the June edition:
Featured article on Dr. Amar Mohanty & Dr. Manju Misra with background information on the BioCar Project and an update on the construction of the new addition to the Crop Science Bldg.
In-depth coverage of the “Raizada” lab, people, research and lots of other info ...
More graduate student profiles ...
New—staff profiles ...
Lots, lots more!!
Comments, feedback, or ideas for articles should be sent to Beth Livingstone (blivings@uoguelph.ca). Deadline for submissions to next issue May 15/08.

Dr. R. Van Acker, Chair
Dr. B. Grodzinski - Graduate Coordinator
Program Counsellors:
Dr. E.A. Clark—Organic
Dr. F. Tardif—Crops
Dr. J.A. Sullivan—Hort
Dr. E. Lyons—Turf