I would like to welcome everyone to the first newsletter of 2003. The Department has once again come alive with student activities, new class beginnings and the preparation and submission of annual reports, final reports and new research proposals. This coming semester promises to be very active for all members of our Department.

Our seminar committee chaired by Dr. Judith Strommer has put together a very exciting seminar series offered by our Department in collaboration with the C-CIARN. The seminar series entitled “Climate Change and Agricultural Adaptation” will explore the science of climate change and its implications for Canadian agriculture. Six lectures will be presented on topics ranging from the scientific basis for public concern about climate change to how potential environmental changes may affect Agri-Food Policy. I want to encourage all members of our Department to take part in this opportunity.

Our Department has been given the “green light” to advertise two new Canada Research Chair positions. A senior Chair in nitrogen modelling is advertised as a joint appointment with the Department of Land Resource Science. The second Chair position is positioned to attract new faculty with expertise in areas such as post harvest biology/technology, stress resistance, physiology or biochemistry. April 15th is the closing date for these positions. Hopefully we will be able to interview a short list of candidates for these two positions by mid May to early June.

As many of you may be aware, several research programs from our Vineland campus will be completing their move to Guelph. Please make every effort to welcome the staff, students and faculty members as they make their new home with us here on the main campus. As well, several research programs located previously at our Cambridge Station are also in a state of transition. I have been actively working with our OMAF partners to help make their transition to our other research stations as painless as possible.

A special “thank you” to all members of the Department who participated at the Ontario Fruit and Vegetable Convention held on February 18th and 19th at Brock University in St. Catharines. Our Department has been participating actively at this conference for a number of years. Approximately 1,400 people, including speakers and exhibitors, were in attendance. It was a great opportunity for us to profile our research and teaching programs in horticulture. There were 50 posters displayed, of which approximately 90% were from the University of Guelph, and most of those were submitted by faculty, staff and students from the Department of Plant Agriculture. All 12 of the student posters submitted were from the University of Guelph. The $300 first place winner was Jennifer MacIntyre Allen, Environmental Biology, for her poster entitled “Field Biology of Onion Thrips in Commercial Onion Fields, Thetford-Grand Bend Marsh, Ontario.” The $100 runner-up prize winner was our very own Sean Westerveld for his poster entitled “The Effect of Nitrogen Rate on Yield, Day to Maturity, and Thrips Damage of Summer Cabbage in Ontario.”

Our new Variety Club, chaired by Dr. Barry Micallef has already initiated a very successful Valentine’s coffee break. This committee plays a very critical role in the quality of life that we enjoy within our Department. Please take a moment to be sure that you have purchased your membership and I encourage all members of our Department to participate in the activities planned for this coming year.
Good Luck Jeremy!
Melissa Wheeler

Melissa spent her younger years growing up on a beef farm in Simcoe County just south of Wasaga Beach, Ontario. Melissa originally started at Guelph in 1996 with the idea of getting her diploma in horticulture and finding a job in the industry. Once the Associate Diploma in Agriculture was completed Melissa felt the need to further her education to hopefully secure a better future. She then enrolled in the B.Sc.(Agr.) program majoring in agronomy. In her third year of that program she took a course called weed science and found a love for that particular discipline. When Melissa completed the B.Sc.(Agr.) program she decided to inquire about a M.Sc., specifically in weed science, and found that the doors were open and the advisor she was interested in was most welcoming. Since then Melissa has been conducting research in the area of herbicide resistance in which she has found some interesting results. Melissa plans to finish her masters at Guelph and then find a job in the agricultural industry and finally pay off all her student loans. Once her loans have been taken care of, Melissa will then consider attempting a Ph.D. in weed science.

Jun Liu

Perhaps no one really knows dandelions because they are too common to all of us. My name, Jun, is very common too. There are uncounted people in China bearing the same name as me. Since it is so common you might think that it may have a broader meaning. It definitely does. Jun means a person in essence. Therefore, it has the most common sense to form a name. But it has more profound meanings as well. It also means a noble person, even an empire.

Dandelions like movement. In that respect I am like a dandelion. I was born in a town with many wild fruits in the surrounding mountains and grew up in a small city 60 kilometers away from where I was born. At 17 I headed out on a 44 hour train journey to study at the Agricultural University of Inner Mongolia. After I got my B.Sc. and M.Sc., I worked for a research station in another province. Then, over the Pacific I came to Guelph to study what I like as a student. I came here as a M.Sc. student to study kernel red streak (KRS) in corn and I am advised by Dr. Art Schaafsma. KRS is a major problem linked to food grade corn and it seriously threatens the development of this industry in Ontario. I am trying to sort out the cause(s) of KRS from the point of view of entomology and physiology.

I am proud of the special gift that I obtained in 2002, the Ball Farm Services and Agrico Canada Ltd. Scholarship. I appreciate their support very much.

I like dandelions. They may seem common and usually grow in poor environments, but they provide us with food, medicine and protection of our nature. Their vigor and spirit encourage me to work harder for our society.
Renée Cloutier

Renée is originally from the small northern Ontario community of Chapleau, which prides itself on having the largest wilderness game preserve in the world. She enjoys many outdoor activities such as hiking, fishing, hunting, cycling, skiing and snowmobiling. At home, she enjoys stirring it up in the kitchen, especially when comfort food is involved.

Renée received a B.Sc. (Hon.) and M.Sc. in Biology from Laurentian University. She also obtained a M.Sc. in Horticulture from Michigan State University. In January 2002, she enrolled in a Ph.D. program in the Department of Plant Agriculture with Dr. Bernard Grodzinski. Her thesis research will investigate leaf development and photosynthesis in snapdragon (Antirrhinum majus L.). After completing her Ph.D., Renée hopes to do some post doctoral work in Australia prior to getting a faculty position at a university. However, she must concentrate her thoughts on her upcoming comprehensive exams.

Renée has been very fortunate to receive the H.L. Hutt Memorial Scholarship, the Silas Smith Memorial Scholarship and a University Graduate Scholarship. She is very humbled and appreciates the support given by the Department, College and University. A sincere thank you to everyone involved.

Rebecca Harbut

When Rebecca transferred from the University of British Columbia to the University of Guelph to complete the last two years of her undergrad studies no one could understand why a city girl from Vancouver would go to Guelph to do a degree in plant agriculture. (Not to mention leaving a wonderful, moderate west-coast climate!) Well, she thoroughly enjoyed her undergrad time in Guelph, met some great friends, and had the opportunity to do work study with Dr. Sullivan and Kasha. In May 2002, Rebecca graduated with a degree in Plant Agriculture. During her last semester she decided that she would pursue studies in graduate school.

Rebecca began working with Dr. Al Sullivan in May 2002 on a very exciting project involving research on wild strawberries. She is focusing on investigating the physiology of recently hybridized wild species and cultivars. Currently, Rebecca is in the third semester of her Master’s degree and starting to gear up for the next field season!

Notice to All Plant Agriculture Graduate Students

As of February 6, 2003, Dr. J. A. Sullivan will be on administrative leave for the duration of the Winter 2003 semester. The interim graduate co-ordinators are Dr. Duane Falk in the Crop Science building (room 209, ext. 53579) and Dr. John T.A. Proctor in the Bovey building (room 1218, ext. 53446). If you have any problems or concerns please contact these faculty or graduate secretary Jean Wolting located in the Bovey building (room 1105, ext. 56077)
Erin Bullas

Currently, Erin is working on her M.Sc. entitled “An Investigation of Varietal Preferences Exhibited by the Potato leafhopper, Empoasca fabae in Edible Beans” under the supervision of Dr. Art Schaafsma. Her field studies conducted at Ridgetown College, throughout the summers of 2001 and 2002, proved to be both very successful and enjoyable. Erin has many memorable experiences from her time as a graduate student, particularly her trip to Winnipeg for the annual meeting of the Entomological Society of Canada where she received the President’s Prize for best student presentation.

Erin grew up on the Grand River in Brantford where her appreciation for nature developed at an early age. She spent her younger years exploring the river trails, playing rugby, practicing the violin, and scuba diving in the Tropics with her parents.

Insects became Erin’s passion in her third year of undergraduate studies at the University of Guelph. Fortunately, she was able to explore the vast diversity of insects in the Ecuadorian Rainforest while on a field entomology excursion in May of 2002.

In her spare time, Erin loves to go skiing in Quebec and camping and collecting insects in northern Ontario with her husband, Michael Appleton. Her goal is to find a fulfilling career that will enable her to assist Ontario field crop growers in adopting pest management strategies that are sustainable in an integrated pest management regime.

ONTARIO FRUIT & VEGETABLE CONVENTION
STUDENT POSTER COMPETITION WINNERS

CONGRATULATIONS

First place winner of $300 is Jennifer MacIntyre Allen, Environmental Biology, for her poster entitled “Field Biology of Onion Thrips in Commercial Onion Fields, Telford-Grand Bend Marsh, Ontario.”

The $100 second place winner was Sean Westerveld, Plant Agriculture, for his poster entitled “The Effect of Nitrogen Rate on Yield, Days to Maturity, and Thrips Damage of Summer Cabbage in Ontario.”

GRADUATE STUDENT SEMINARS

Graduate student seminars for Plant Agriculture’s Hort*6500 and Crop*6400 courses will be presented on the morning of Friday, April 4th from 9:00 a.m. to 12:00 noon. Location to be advised by e-mail.

Mark this date on your calendar and come out and support our graduate students!
Dr. Grodzinski’s office contains a number of coffee mugs, but he favours two. On one cup there is inscribed simply “IT’S A WONDERFUL DAY” over a cartoon of a lone figure sitting on the roof of a farm house overlooking a quiet pastoral scene. His other favourite is a souvenir from a meeting hosted by SALSA (Space and Life Support Agriculture) for NASA and ESA colleagues emblazoned with the team logo “MARS OR BUST.”

After completing undergraduate and graduate degrees at the Universities of Toronto and York, Dr G traveled to England to take up a postdoctoral fellowship in Oxford and subsequently a faculty position in the Botany School at Cambridge. He returned to Canada in 1979 serving in the Department of Horticultural Science. Currently, he is Head of the Horticulture Division of Plant Agriculture and co-Director of SALSA which is a center for closed environment research for the greenhouse industries in Ontario and the manned space program.

Dr G’s basic focus remains the biochemistry, genetics and physiology of photosynthesis, C-partitioning and plant productivity. He has a keen interest in sub-lethal stress physiology and the manner in which metabolic redundancies buffer plants during acclimation to environmental perturbations. His group attempts to integrate processes that occur at the molecular, cellular, organ, organism and canopy levels of complexity.

His group addresses a range of basic and applied projects both independently and in collaboration with colleagues inside and outside Canada. For example, photosynthesis and cold tolerance in winter wheat and pine have been compared to understand natural strategies of over wintering evergreens. This work was completed by Dr. Demos Leonar-dos (Guelph) in collaboration Dr.’s Norman Huner (Western,ON), Gunnar Oquist (Umea, Sweden), and Leonid Savitch (Agriculture Canada, Ottawa). Other collaborative studies in Ontario involve the Universities of Toronto, York and Queen’s.

Continued on page...
Prof. Grodzinski continued from page 6...

At Guelph, with Prof. Michael Dixon (Director SALSA, Chair-EVB), studies on new lighting systems, primary gas exchanges, hydrocarbon emissions and water usage in sealed environments are ongoing to better understand plant development in harsh environments. A series of new hypobaric chambers have recently been assembled to test the effects of reduced pressure for the international space program.

Dr. Sutton’s group, in EVB and Dr G’s team including Melanie Johnstone (PAG, M.Sc. 2001) and Noe Ortiz-Uribe (PAG, Ph.D.) are testing and designing early detection systems for root diseases based on the plant as the sensor (e.g. changes in leaf gas exchange and fluorescence signatures). The view is to develop strategies for applying biocontrol agents and physical/chemical remediation to hydroponic systems. Automated control against the effects of diseases and toxins in greenhouses can be developed that will improve water usage and quality during intensive agricultural production. Dr. Mohammed Iqbal joined the team in 2002 and has helped develop new growth protocols for Arabidopsis that will lead to new bioassays for quickly quantifying allelochemicals (phytotoxins) in root systems based on rapid photosynthesis responses. With EVB colleagues, Dr.’s J.C. Hall and C. Beninger, he has helped identify several toxic chemicals.

Jorge Gutierrez (PAG, Ph.D.) will be publishing the first papers showing that low light tolerance traits can be bred into commercial greenhouse crops. Dr. David Wolyn and Dr G are looking for the physiological and genetic bases of low light tolerance in plants by studying Arabidopsis lines selected by crossing here at Guelph. Dr. Malgre Micallef, and her husband Dr. Barry Micallef are working with Dr G to understand how the diel metabolism of sugars and starch can regulate tolerance to low light conditions in both ornamental and vegetable greenhouse crops. Renée Cloutier (PAG, Ph.D.) is studying the role of leaf ontogeny in assimilate movement during growth under different environment challenges (e.g. N).

Jamie Doran (PAG, Ph.D.) and his co-advisor Dr. Mary Ruth McDonald are investigating the link between primary photosynthetic C flow and secondary metabolism leading to flavor production associated with photo-oxidation in selected species (e.g. domestic and wild leeks). George Lin and Renuka Subasinghe provide able technical support to all the students including Jamie. Dr. Rina Karmentsky (Volcani Institute, Israel), will spend her sabbatical leave in Plant Agriculture in 2003-4 in part to examine bulbous Canadian species with the view to identifying indigenous North American species that may be of practical value to the floriculture and food industries. The work at Guelph will link international efforts to build a gene bank for selected Alliums. Ironically, Jamie Doran’s thesis is of interest to the manned space program. NASA astronauts are demanding from the dieticians food that has flavor. Onions have been identified as candidate species for future long-term missions.

Locked away in a small special room in the SALSA facility is another PAG Ph.D. candidate, Jason Deveau, who has developed a unique micro-electrode system for investigating the role of the apoplast in maintaining homeostasis during photosynthesis and long distance transport. These studies are in collaboration with Dr. Michael Lindinger (Human Biol/ Guelph) who is a member Jason’s advisory committee.

The two cups merely serve as alternative vessels for refreshment. The basic and applied research both serve to generate a better understanding of stress physiology and inherent genetic control of plant plasticity.

Dr G’s office is located in Room 4243 of the Bovey building in Guelph. His telephone number is 519-824-4120 ext. 53439 and his e-mail is bgrodzin@uoguelph.ca
Three distinguished members of our faculty have recently been awarded the Presidential Distinguished Professor Award for their contributions through teaching, research and service. They are Professor's Clarence Swanton, Peter Pauls, and Rick Upfold. The Awards were celebrated at a reception that was held on January 30, 2003. The following are excerpts from the citation that the Provost had submitted to President Mordechai Rozanski for our award winners.

**Professor Clarence Swanton**

"Dr. Swanton is the Chair of the largest department on campus at a time of tremendous change. He has been involved in helping the Department accommodate to significant financial cuts, and manage staff relocations as part of the changes to the OMAF contract. At the same time he has been fundamentally involved in reinvigorating the Department and building a sense of shared vision. He is highly regarded by his colleagues for his vision and compassion, and as a role model in mentoring faculty, staff, and students in the Department and works very hard in their interest. In a year in which administration might have overwhelmed another chair, Swanton continued to supervise a large number of graduate students, publish a book, teach one course, and receive awards: Elected Fellow Canadian Society of Agronomy 2002, Weed Science Society of America's Outstanding Researcher Award 2002, Syngenta Crop Protection Award 2001."

**Professor Peter Pauls**

"Dr. Pauls is the highest rated faculty member in the Department of Plant Agriculture. He is an exceptional teacher with a consistent and strong record of teaching undergraduate and graduate students. He is internationally recognized for his research program, which is well funded from a wide variety of sources. Peter was the Principal Investigator of one of the first CFI's on campus and works tirelessly within and outside the Department to promote cell biology, the Ontario Agricultural College and the University of Guelph. He is currently the chair of the Department's undergraduate committee and the OAC B.Sc. (Agr.) committee."

**Professor Rick Upfold**

"Professor Upfold has made sustained and superior contributions to teaching in the Department. He is respected by diploma and undergraduate classes, and was elected President of the Diploma '02A and B.Sc. (Agr.) '99 classes. Upon the formation of the Department of Plant Agriculture, Rick assumed responsibility for the management of the research stations. He has worked tirelessly at this often unseen but onerous task, including bringing all units to a uniform system of management. In this role he has played a positive part in the closure of the Cambridge research station. Recognition of his contributions to industry, management of research stations, and teaching in the diploma program seems most appropriate in this year in which all have changed significantly."
As of December 21, 2002 there are now 15 new Dell computers available for general access by Plant Agriculture personnel at the main Guelph campus. The Crop Science building computer pool of 10 machines is located in room 213 and the five machines for the Bovey building pool are located in room 3109. Users are required to have an account for PLANTSRV (our Novell server on campus) and it can be obtained from the IT Manager, or if in Bovey, contact Mike Peppard at mpeppard@uoguelph.ca

Each pool has its own HP Laserjet Printer available for a nominal charge of $0.10/page. The Bovey pool also has one machine equipped with a flatbed scanner that has a 35mm slide attachment for obtaining digital images from paper or existing slides. An older, but still functional, flatbed scanner is located in the Crop Science pool, just not on a new Dell machine. All Dell computers have CD RW drives for burning your own CDs. Each pool has one machine equipped with a Zip drive for reading/writing from zip cartridges.

Hardware specs. for the Dell machines include: P4 1.8 Ghz, 512 MB SDRAM, 20GB Hard Drive, 24x CD-RW, 3.5” floppy drive, 17” monitor, scroll mouse and keyboard. Current software include: Windows XP Pro, MS Office 2000 Pro (Word Excel, Powerpoint, Access, Photo Editor), Corel Office 2002 (WordPerfect 10, Quattro Pro), Adobe Acrobat 5 Writer/Reader, Netscape 4.8, IE 6, SAS 8.2, Mapmaker/QTL v3.0, WS-FTP.

The Crop Science pool can be reserved for teaching purposes, so there will be occasions when this pool in not available for general use.
2003 Mid-Atlantic Horticulture/Landscape Field Day
Saturday, April 5, 2003
Co-hosted by Niagara College and The Niagara Parks School of Horticulture

For the first time the University of Guelph will be sending teams to the Mid-Atlantic Horticulture/Landscape Field Day and it is the first time that this event will be held in Canada!

This is an opportunity for any full or part-time students enrolled in a post-secondary institution to participate in tests of skill and knowledge focusing on horticulture and landscaping. Schools in the "mid-Atlantic" north-eastern United States region and eastern Canada that offer a curriculum based on landscape construction and design, ornamental horticulture, and related fields are encouraged to send a team (or teams) of students to this exciting event.

The Mid-Atlantic Horticulture/Landscape Field Day is more than just a competition; it is about teamwork and school spirit. It is about support and encouragement. Many students leave the competition with much more than when they arrived. A well-deserving group will leave with a plaque commemorating their placing in the top of their contests, others might get a solid lead on a future employment opportunity or make great connections and share information with horticulture students from other schools. The shining stars that are the future of the horticultural industry will be gathered in Niagara on April 5th, 2003 for this event.


The fee for this event is $45.00. This amount includes your entrance fee, a T-shirt and three meals for the day (breakfast, lunch and the evening banquet).

WE ARE LOOKING FOR
TEAM PARTICIPANTS, COACHES AND A CHEERING SECTION

** If you are interested and would like more information contact Rodger Tschanz at 519-824-4120 ext. 58912 or e-mail Rodger at rtschanz@uoguelph.ca **
Dr. Jae-Kyung Yang has joined the mushroom research team at Vineland as a visiting professor. He came from Korea on January 15, 2003, and will stay for a year for his mushroom research project with Dr. Danny L. Rinker in the Department of Plant Agriculture. Dr. Yang is an assistant professor in the Gyeongsang National University Faculty of Forest Science in Chinju, South Korea. He obtained his Ph.D. degree with a major in Wood Chemistry from the Kyungpook National University, South Korea in 1994.

His research topics concern production of functional materials using xylan from agriculture and forest residues, processing of waste papers by degradable enzymes for recycling, development of antibacterial conjugating linker using essential oils of Chamaecyparis obtuse, and development of sawdust medium for the enhancement of mycelial growth of a mushroom, Lentinus edodes. He is undertaking the collaborative research with Dr. Rinker on the antifungal wood extractives for the control of a green mold, Trichoderma harzianum, which is harmful for the growth of mushroom.

He lives with his wife, a daughter and a son in St. Catharines. Jae is located in office 230 of the Administration building in Vineland. Phone: (905) 562-4141 Ext. 161. E-mail: jayang@uoguelph.ca

On January 29, 2003, students from Plant Agriculture’s Hort Club and the Landscape Ontario’s Student Chapter hosted the 4th Annual Horticultural Job Fair in the courtyard of the University Centre. Thirty employers from different parts of Ontario and different horticultural sectors were on hand to discuss horticultural jobs and careers with all who were interested. By all accounts the day was a success.

CONGRATULATIONS to Rhonda Crowe-Gerrits (computer technician with Dr. Powell) and her husband on the birth of their baby girl (7 lbs 3 oz) named Madelyn Grace Gerrits on January 28 at 5:23 am. Mommy, daddy and baby are all doing fine.
The Food Safety Network (FSN) information centre official launch garnered national attention with 19 articles appearing in newspapers across Canada including an in-depth one on December 23, 2002 in the Globe and Mail. Dr. Doug Powell appeared on a variety of radio stations and the media attention resulted in doubling the inquiries, with a peak of 58 phone calls on December 23, 2002. For more information on The Food Safety Network go to their website at: http://www.foodsafetynetwork.ca/

COMING EVENTS

Canada Blooms ‘A Symphony of Gardens’ - held March 12 to 16, 2003 at the Metro Toronto Convention Centre, Toronto. Rodger Tschanz will be speaking about the Trial Gardens that we have at the GTI on March 15 in the Horticultural Happenings area. For more information go to: http://www.canadablooms.com

College Royal - runs March 15 from 9:00 a.m. to 4:00 p.m. and March 16 from 10:00 a.m. to 4:00 p.m. This is the largest university open house event in North America. “Proud Heritage, Promising Future” is the theme of this year’s event. All open house events are free and open to the public.

52nd Annual Muck Growers’ Conference - held April 2 and 3, 2003.

The 52nd Annual Muck Vegetable Growers’ Conference will take place on April 2 and 3, 2003 at the Holy Martyrs of Japan Parish Centre, 167 Essa Rd, Bradford, Ontario. The conference features speakers from Ontario and the United States on topics of crop protection, production and promotion of muck vegetables (onions, carrot, lettuce, celery) and Asian vegetables.

Thanks to the generous support of several sponsors there is no registration fee for this conference and lunch is provided. There is also an extensive trade show. Doors open at 8:30 a.m. and the speaker program begins at 9:00 a.m. each day.

For more information, contact Mary Ruth McDonald at mmcdona@uoguelph.ca, or Shawn Janse at sjanse@uoguelph.ca or consult the Plant Agriculture website at http://www.plant.uoguelph.ca for information to be posted shortly.

Canada’s Outdoor Farm Show 10th Anniversary - September 9 to 11, 2003 at the University of Guelph Research Station, Woodstock, Ontario. The 10th anniversary will be celebrated with the reconstruction of an authentic 100 year old octagonal barn on site and special “big name” entertainment, along with all the other fun and informative things that the Farm Show provides. For more information go to http://www.outdoorfarmshow.com/

Rural Expo 2003 (International Plowing Match) - September 17 to 21, 2003, will be held on 1,000 acres of land in Beckwith Township near Carleton Place in Lanark County, ON. For more information go to: http://www.ruralexpo2003.ca/
The News From Here – Guelph McLaughlin Library

A very important acquisition for Guelph library users was announced in January. The Elsevier suite of over 1,500 journals in electronic format is now available. This collection covers a broad group of disciplines with many valuable science titles. Scientia Horticulturae, Postharvest Biology and Technology, Field Crops Research and Applied Soil Ecology are just some of the 26 agricultural publications relevant to the work of the Department of Plant Agriculture. Most titles are available from 1995 to the present. To view the complete Elsevier list, search by publisher from the electronic journals page in the What’s Online section of the Library homepage. To narrow the search to science or agricultural holdings use the publisher and subject field with the Advanced Search form.

The addition of the Elsevier titles brings the Guelph Library’s total electronic subscriptions to over 8000 titles with more being added everyday. Recently added electronic titles from other publishers are: Nature – Genetics and Cell Biology, Plant Molecular Biology and Plant Molecular Biology Reporter, Molecular Membrane Biology, Journal of Arboriculture, Sportsturf, Turfgrass Trends, and Scientific American.

I am also happy to announce the return of Digital Dissertations. This very useful index to the world’s dissertation literature was dropped during a period of fiscal restraint but has now been restored. See the June 2001 issue of the Plant Agriculture Newsletter for a full description of this index.

A new service connected to the TRELLIS library catalogue is the “Bookbag.” This feature allows library users to save up to 1000 records from catalogue searches. Saved titles can be printed, emailed or downloaded to disk. Bookbag is a convenient way to keep track of library materials you are using.

Watch for the Library’s first newsletter “Library Links,” due out shortly in print and online. The print version will be an insert in @Guelph.
The Plant Management Network [http://www.plantmanagementnetwork.org] is a new online source of applied plant science information covering agronomy, horticulture, and forestry. In addition to fact sheets, images, newsletters, product listings, training resources and related information, the network includes two peer-reviewed journals with a third being planned.

The first journal, Plant Health Progress, focuses on applied plant health and is sponsored by the American Phytopathology Society. The second, Crop Management, covers applied crop science. The Network’s mission statement describes it as a not-for-profit forum for applied, multidisciplinary, science-based, plant and crop management information and communication. Partners include major U.S. universities with agricultural departments, extension, industry, government and non-profit organizations.

The online journals provide new applied research publishing vehicles and the network itself a partnership possibility for our department as well as a resource.

Library News continued from page 13…

The News From There - Vineland Research Library

The H.R.I.O. Vineland Library was formally organized in 1970 with books and journals collected by scientific staff starting in 1906. Due to the downsizing of operations at Vineland announced in 2002, the library at Vineland is closing this month and the collection is being dispersed. Small groups of materials relating to the remaining fruit breeding and management programs have been selected by individual Vineland faculty members to support their programs. Library reference and other services will be provided from Guelph.

The Vineland collection was compared to library holdings in Guelph and unique items have been sent to the main campus to be catalogued in TRELLIS and housed in the University Library. Materials that were identified as duplicates in Guelph have been offered to the OAC college libraries, Brock University, the Niagara Parks Commission School of Horticulture, Niagara College and the Royal Botanical Gardens Library. Some books were sent to the Simcoe Campus which will retain its library collection.

My position has been moved to Guelph and I am now the Liaison Librarian for Plant Agriculture and four other OAC departments. I am looking forward to continuing my information work with Plant Agriculture faculty, staff, and students from my new office in room #272 on the 2nd floor of the library (near the reference desk). Stop and say hello if you are in that area and please don’t hesitate to contact me to discuss library services.
I would like to begin by thanking all staff and faculty who supported my request to continue for an additional year as chair of our Department. My term will now end in December 2004. This additional year will give me an opportunity to complete several Departmental initiatives that I would like to see through to completion. As well, our faculty have decided to request from the Dean of OAC, that the search for the new chair include both internal and external candidates. This search will be initiated in early October.

This past semester the Plant Agriculture seminar series was co-sponsored with C-CIARN (Canadian Climate Impact and Adaptation Research Network). This series was again very successful and well attended. Many “thanks” to all who attended and special appreciation to Judy Strommer and her Departmental seminar committee as well as Ellen Wall from C-CIARN.

As you are aware there are several labs that have now moved from our Vineland campus to Guelph. Dr. George Chu & Lisa Skog and Dr. Calvin Chong & Peter Purvis are now located in the Bovey building, Dr. Barry Micallef & Naheed Rana are now located in the Crop Science building. Dr. Mary Ruth McDonald has moved from the Muck Crops Research Station to the Crop Science building. Kevin Vander Kooi, who works with Mary Ruth, will remain located at the Station.

Two members of our Department have been recognized for their outstanding efforts. Most recently, Tannis Slimmon was the recipient of the Guelph Women of Distinction Award in the Arts Category and Dr. Manish Raizada received the Premier’s Research Excellence Award. Congratulations to both of you for outstanding accomplishments.

Congratulations to Dr. Tony Hunt on his recent retirement. I look forward to celebrating Tony’s many contributions to science and the Department early in the fall. Congratulations also goes out to Dr. Tom Michaels on his recent appointment as Chair of the Department of Horticulture Science at the University of Minnesota starting September 2003.

Our new Diploma in Turf Management is now ready to be launched this September. We are expecting approximately thirty new students to be enrolled in the first year. This new program will be under the Directorship of Rob Witherspoon who will be located in room 212 in the Crop Science building. Rob will also be teaching within the program. In addition to these duties, Rob will continue to serve as Director of the Guelph Turf Grass Institute. Welcome to our Department Rob!

I wish to extend a warm welcome to four new graduate students who joined the Department this spring. Katiya Blaine (MSc) with Doug Powell, Eric Wierenga (MSc) with Praveen Saxena, Lorraine D'Silva (MSc) with Barry Micallef, and Joanne Liu (MSc) will be studying under my supervision.

I wish all of you a safe and happy summer semester!
Dogs and cats, living together...mass hysteric! by Jeremy Friedberg

For lack of any better way to describe my feelings...I hate cats...I really do...if I ever had to draw a picture of evil...I'm pretty sure it would look very similar to a cat. Those wee beady eyes, and that smug look...ok...aside from the fact that I'm horribly allergic to cats, all of my friends in Guelph have cats...that's right, not just one but two cats...as if there was some 2 for 1 coupon in the grad application package. It is epidemic I tell you! For me, going over to a friends home for an evening is a pill popping ballet of decongestants and antihistamines, a minimal patch work to hold back flood gates of lake mucus. The cats stare at me, just waiting for me to let down my guard so they can crawl under my eyelids and roll around.

So again...I hate cats...at least until three weeks ago.

I'm a dog person. I used to have a little white Bichon named Candi (you can visit her memorial web page on my website at http://www.uoguelph.ca/~jdberg/candi.htm ), who incidentally was the source of much antagonism. But she was a great dog...loyal, non-planning, non-evil, non-litter stinking, most wonderful best friend a boy could ever have. Personally, I cannot wait to get another dog.

I was pretty set in my mind...hands down...dogs are better than cats. But I saw something that changed my life...ok more like my perspective...a toilet trained cat (Fig. 1). Brilliant... sharing the pot with your pet. In a million years, my dog or any dog for that matter could never be trained to use the toilet. I wouldn't believe it till I saw it for myself. Sitting there like a Greek god on a porcelain pedestal... I was floored to say the least. Majestic and functional! So my final verdict...still evil but really impressed...I'll be even happier when they can flush too!

So my feelings on cats...ok keep them if you must but what a waste if you haven't got them to use the toilet yet. In conclusion and at the risk of upstaging Bob Barker...to all grad students, help stop evil and toilet train your cat! (for help see http://www.karawynn.net/mishacat/toilet.html ). So let it be written...so let it be done!

Movie Line Contest

Here are the new movie lines and again the first two individuals to e-mail me the correct movie titles will win pints of beer in the grad lounge (purchased by me of course). Good luck!

1. It's the smell.
2. ... You are not how much money you have in the bank... You are not the shoes you wear... You are not the contents of your wallet... You are not your job...
3. Ken Ken Ken Ken Ken...you don't even know why you are excited... You're a very attractive man Ken...you've got wonderful bones and you dress really interestingly...and a wonderful speaking voice...when it works.
4. Surely I have made my meaning plain. I mean to avenge myself upon you, Admiral. I've deprived your ship of power and when I swing around I mean to deprive you of your life.

***************

Editor's Note: Jeremy is located in the Crop Science building in room 427 and lab 419. His office extension is 58182 and his lab extension is 58185. You may also reach Jeremy at jdberg@uoguelph.ca
Shuhua Zhan

Shuhua was born and raised in a small valley in Hubei, China. As the son of a farmer he aspired to study and master agricultural technologies. He was admitted to Huazhong Agricultural University at Wuhan, China in 1983, majoring in pomology. Right after he graduated from the University with a B.Sc. degree in 1987, he worked at the Institute of Fruit and Tea, Hubei Academy of Agricultural Sciences, China. As a technician, assistant professor, and assistant director, Shuhua was involved in and responsible for several research projects in fruit breeding and cultivation, genetics, plant tissue culture, and plant biotechnology.

In 1998, he was very fortunate to be invited to visit the Department of Forestry, Oklahoma State University as a visiting scholar. His research project was the genetic transformation and regeneration of woody plant. His working experience sparked his interest in bioinformatics. Therefore, he started his graduate studies on a M.Sc. degree in computer science at Oklahoma State University.

Upon immigrating to Canada, Shuhua settled down in Guelph along with his wife and son in August 2002. He is glad to have received the OGSST scholarship and financial support from the Department of Plant Agriculture, University of Guelph to pursue his M.Sc. degree. Shuhua is able to apply computer science technology to genetics and plant biology. In the winter of 2003, he started working with Dr. Lukens on his thesis research entitled “Computational Analysis of Neighboring Gene Coexpression in Arabidopsis.”

In his spare time Shuhua enjoys playing table tennis, basketball, fishing and spending time with his family. He was a bronze (single) and silver (double) medallist in the table tennis competition at the OSU International Olympics.

Heinrich Wohleser

When Canadians think about Austrians they may have funny looking folks in mind, which are yodeling all day long. Perhaps this may not be totally wrong but I do not belong to that group.

My first name Heinrich is a common name in Austria but my family name is not. I come from a very little village called Steinakirchen, which is located in lower Austria, about 100 km west of Vienna. This area is also called the cider area, because cider production is of major importance. Even though my family doesn't own a farm I have always been inspired by farm work and the basics of agriculture. Therefore, I attended an agricultural high school to increase my knowledge in this area. After graduation I joined the Austrian Army and immediately after my military service I entered the University of Agricultural Sciences in Vienna. During my studies in Vienna I specialized in plant breeding and genetics at the Department of Plant Sciences. During work on my Masters I got the opportunity to come to the University of Guelph to do part of my research at the Department of Plant Agriculture. Prof. Rajcan was my supervisor during this period, and thanks to him I am back again to do further grad studies. Right now I am enrolled in a Master's program under his supervision which focuses on the investigation of Vitamin E accumulation in soybeans. In this research molecular marker mapping will be used to identify QTLs responsible for Vitamin E production. I am really grateful to have been given this great opportunity to come here to do my Masters.

Along with the good education offered to me here, I enjoy the country very much. Canada is one of the most beautiful countries I have ever seen and I am really enjoying my stay. In addition, the department and colleges have welcomed me in such a nice way that I have found a second home here already. I really want to thank all of them for this chance and I am happy to have you around me.
I was born in the holy city of Amritsar in northern India. My parent state of Punjab is the storehouse of grains and the richest state in India. The fertile plains of this region and hardworking people together make Punjab an agriculturally rich state. Being from a farmer’s family, right from childhood I had an aptitude to do something valuable for farming in my state that could keep pace with the progress of state.

Looking at my picture some of you may confuse me with Muslims and you may be thinking about what I am wearing on my head. I don’t know what many of you know about my turban. Now I will tell you something about it and why I am wearing it. I belong to the Sikh religion. Sikhism is a monotheistic faith and distinct from Islam and Hinduism. It recognizes God as the only One, he who is not subject to time or space. He who is the Creator, Sustainer and Destroyer of the Universe. Sikhs have unshorn hair, beards and moustaches and it is an article of Sikh faith. This is our way of showing respect to God. My religion forbids us from breaking the law of nature and altering the shape that nature has given us. The turban is worn to cover our long hair. It’s a symbol of purity, dignity, and self-respect. This also gives me a different identity. Sikhs are very hardworking, brave and kindhearted and I am proud to be a part of them.

I did my bachelors in Agriculture Sciences and masters in Horticulture Sciences from Khalsa College, Amritsar, a prestigious century old institute of India. Determined to become more advanced and competitive in this fast changing world, I came to the University of Guelph to learn the latest techniques in the field of Horticultural Sciences. At present, I am pursuing a M.Sc. degree in Horticulture with Dr. Dennis Murr.

India is the second largest producer of fruits in the world but ironically nearly 30 percent of the produce is lost due to poor post harvest handling. So I plan to do research in Post Harvest Physiology of fruits. I am using apple as a material of research because of the qualities of this fruit as stated by this saying, “An Apple a day keeps the Doctor away.” My research work will be on a magical gas, on which the whole world has its eyes on. Guess? What? Oh! Yes you are right, it is 1-MCP (1-methycyclopropene). At present it is registered for use only on flowers. The day is not far away when it will be registered for use on fruit because of its low residual effect and very low amount of concentration used in the fruit industry. The post harvest physiologists proved that it is quite beneficial in increasing the shelf life of apples in CA storage rooms. But one of its limitations is that it suppresses the flavor and aroma of apples which is the most important criteria in eating quality. So my research work will be an effort to solve this problem and provide good quality apples throughout the year.
Jennifer Wilker

Jennifer grew up on a small farm about an hour north of Guelph. Her days as a child were filled with outdoor activities such as helping her grandpa cut firewood, pilfering his garden for peas, or making “herbs and spices” out of various pasture plants. She fished for minnows and was chased by an enraged mother cow as her dad pulled her calf and Jennifer at full speed behind the snowmobile! Life since arriving at Guelph for her undergrad has hardly been less exciting!

From the get-go, Jennifer was focused on International Development and Agriculture (ID). Her undergrad courses in ID allowed her to study many aspects of international agriculture. A Plant Biology minor gave her B.A. some scientific practicality. Her first taste of something international was participating in the Moscow and Krakow semesters. As an undergrad lab assistant with Larry Peterson (Botany) she experienced the ins and outs, and the ups and downs of lab work and decided that she wanted to undertake the rewarding challenge of a Master’s degree.

After taking a year off to get some work experience (Cargill, Pioneer) and to travel Down Under with her husband, Jennifer is back at Guelph just getting into her Master’s. Her research in the Paul’s lab is focused on testing the effects of the cell cycle in an Agrobacterium-mediated transformation system for corn. It promises to be a very interesting research project and Jennifer is sure she will gain volumes of knowledge that will prepare her for future endeavours.

As for the future, Jennifer hopes to get a job in the agriculture industry and eventually complete a Ph.D. in International Agriculture. FAO, here she comes!

Congratulations!

NSERC Winner

Sean Westerveld (Ph.D.) with Mary Ruth McDonald

OGS Winners

Shawn Clark (M.Sc.) with Barry Shelp
Rosa Di Leo (M.Sc.) with Barry Shelp
Rebecca Harbut (M.Sc.) with J. A. Sullivan
Bonnie Lacroix (Ph.D.) with Doug Powell
Jason McCallum (M.Sc.-Fall 2003) with Judith Strommer
Hussain Ahmad was born in a small village in the north western part of Pakistan named Swat, also called the “Switzerland of Pakistan.” He is from a family of 10 brothers and sisters. Hussain got his early education in his village school and a high school education at Cadet College Kohat, one of the best educational institutions in Pakistan. He was one of 15 students who won the President of Pakistan Award for best academics.

At first Hussain wanted to become an army officer for which he cleared all the required tests but was not finally selected. Therefore, he decided to pursue a career in agricultural education and got admission into a four year B.Sc. (Agric.) program at the Agricultural University Peshawar, Pakistan. Those students who were at the top of the academic field at the university and received medals and scholarships for study abroad inspired him. From the very first day he worked very hard to get to be one of the students at the top but could not finish even in the top 10 by the first semester. But Hussain did not lose heart and worked harder and harder and by the end of his undergraduate he was successful in getting what he wanted to achieve.

Hussain received his B.Sc. and M.Sc. degrees in 1994 and 1996, respectively with distinctions. He won the distinctive Quaid-e-Azam (meaning great leader) scholarship for further education abroad because of his first place among all the graduates. Unfortunately, Hussain received the scholarship the same year as the government froze the funds for all scholarships because of international sanctions. Hussain then had to wait until 2002 for the release of the funds. During that period, from 1996 until 2002, he worked in a totally different field—The National Bank of Pakistan and remained detached from all sorts of advancements in the agricultural field and suffered heavy academic loss. The funds were released in 2002 and he was successful in getting admission into the prestigious University of Guelph and began his first semester in January 2003.

On April 4, Hussain successfully delivered a graduate seminar on his research proposal: “Root culture in bioreactor: regeneration and antioxidant potential of Echinacea purpurea L.” Although he has found the system very different from the one in his home country he has regained much of his confidence under the excellent supervision of Dr. Praveen K. Saxena.

Apart from being a full time graduate student, Hussain is the father of three children and shares the responsibility with his wife in taking care of the children and raising their newborn baby. His wife has a language barrier and Hussain has to take care of all the needs of their household.

WELCOME
NEW GRADUATE STUDENTS
TO THE DEPARTMENT OF PLANT AGRICULTURE

Katija Blaine, M.Sc. with Doug Powell
Lorraine D’Silva, M.Sc. with Barry Micallef
Joanne Liu, M.Sc. with Clarence Swanton
Eric Werenga, M.Sc. with Praveen Saxena
Barry Wants YOU To Join the Variety Club!
It must have been simpler in the old days – apples in this lab and corn in that. Walk through the Strommer lab in Bovey (closed-toe shoes only) and pick out the pear leaves, alfalfa, and grapes among the Petri dishes and tubes of molecular biologicals. Each crop is at the heart of a different research project, but each has the same kind of DNA, the same rules underlying inheritance and gene expression. The work in all three projects is grounded in this realm of molecular genetics – a discipline which combines studies of genome structure and function, gene expression, and transmission genetics. These areas together comprise Judy Strommer’s strongest scientific interests.

After a pre-med B.Sc. in Botany (you can ask about that) and an M.Sc. in Biology from the University of Chicago, Judy did her Ph.D. work at the newly created Molecular Biology Institute at UCLA, analysing hemoglobin gene structure and genome organization in birds. Scrubbing the blood of hapless donor roosters from her hands, she left UCLA for a kinder, gentler postdoc in plant genetics at UC Berkeley, where she worked on the mutator transposable element system in maize. She came to Guelph in 1989 from a faculty position in the Department of Genetics at the University of Georgia, where she had begun using petunia as a model species for genome mapping and for structure/function studies of gene families. The latter focused on genes encoding alcohol dehydrogenases. The petunia era ended just last year, when Frey Garabagi completed his Ph.D. research.

Meanwhile, other projects followed her home and stayed. Work in petunia genetics led naturally to an interest in anthocyanins and their biosynthesis, which in Ontario led just as naturally to grapes. The team of graduate student Jane Coventry and research technician Ahmed Ali, joined in the summer by undergraduates (last year Devon Metcalf and this summer Kristine Robson), literally and figuratively cover wide ground studying the regulation of anthocyanin production in red wine grapes. This work began about three years ago. In its aim to identify strategies for enhancing levels of anthocyanins and related nutraceuticals in grapes, it owes much to previous lab work in petunia and peas (yes, peas too). Jane, who will be joined by new grad student Jason McCallum this fall,
focuses on molecular analysis of the biosynthetic pathway; Ahmed has earned his stripes in product chemistry, with qualitative and quantitative analyses of anthocyanins and stilbenes.

The grape team enjoys a significant part of the summer in the beautiful Niagara vacationland around the bend of Lake Ontario, luxuriating in the splendor of private vineyards and, especially, the Vineland Research Station vineyard of our collaborator and departmental grape breeder/management strategist, Helen Fisher. Among the vineyard tourists this summer will be Penny Slack, who is working on all three projects before focusing on one undergraduate research topic in the fall.

The pear genomics bench (well, it’s Bovey – half-bench) is home to Ashok Ghosh, a one-man operation in the lab working as a postdoctoral researcher in collaboration with two other members of the Department, David Hunter and Lewis Lukens. This project found its way to the lab through David, a fruit breeder with a long-standing interest in fireblight disease of pears, and a more recent interest in molecular mapping as a route to defining the genetic basis of resistance. Lewis has added his skills in experimental design and bioinformatics. Most of Ashok’s time is spent in PCR-based analysis of SSRs, broken by the occasional paid holiday in the picturesque Vineland orchard, pollinating, infecting, or sampling.

The work with forages comes closest to the common biotech image. Charles Arntzen’s push to develop edible plants as vaccines – combined with a different kind of push, to do something that actually looks like biotechnology – led to that alfalfa (and clover) on the bench. A short hunt for disease-in-search-of-vaccine about five years ago led to Pat Shewen (Pathobiology) and Reggie Lo (Microbiology). The two had collaborated on production of an injectable E. coli-based vaccine against the bacterial disease of calves known as pneumatic pasteurellation, or shipping fever. Collaboration among the three labs has led to the development of transgenic clover and alfalfa producing two key antigens from the disease-causing bacteria, with more transgenic lines on the way. It’s the ideal team, covering the ground from microbe to plant to calf.

Raymond Lee splits his time between Plant Agriculture and Microbiology, spearheading the molecular work – chimaeric gene construction and transgenic plant analysis – while Asma Ziauddin divides her time between the fourth and first floors of Bovey, where she produces and nurtures the transgenic forages which produce protective antigens. Joining Raymond in his cross-Gordon migrations this summer will be Andrew Montague, who is developing his undergraduate research into an M.Sc. project. For a year or so, the vaccine team (including Amanda Pool, now a graduate student in Reggie’s lab) took the air in daily summer outings to Cambridge, plucking the ground-level flower buds from transgenic plants to prevent the possibility of pollen transfer. With the federal government’s decision to ban field trials for edible plants producing novel pharmaceuticals, fieldwork was replaced by the current regime of greenhouse farming. There’s still lots of work, but less demand for suntan lotion and physiotherapy.

Judy tried to keep her hand in the lab, finally admitting defeat when she returned from sabbatical a few years ago. In an area like molecular genetics, so driven by technological innovation, it is particularly difficult to leave the lab. It’s been hard for her to give up the illusion that she can grab a micropipettor and make a contribution; when progress seems slow it’s getting harder to remember how much work is involved in this kind of research. The lab members make it happen, however, with hard work on their own projects and ready hands for the needs of bench-neighbours. Given the intricacies of the benchwork and the lack of space it’s clear – at least until the next sabbatical – that Judy belongs across the hall, behind the dull grey desk at the duller grey computer, with the dried petunia on the windowsill. The opportunities remain, however, to join in exotic travels to Niagara (in steel-toed boots), and to share in the excitement of lab successes (even in sandals).

Judy’s office is located in Room 4230 of the Bovey building in Guelph. Her telephone number is 519-824-4120 ext. 52759 and her e-mail is jstromme@uoguelph.ca
“Who’d ever thought that throwing rotten squash at bee hives would have led me here!”

Growing up in Truro, Nova Scotia gave me many wonderful experiences... and somehow I still managed to get on the straight and narrow. I lived in a neighbourhood with a number of professional agronomists. Some were employed at the Nova Scotia Agricultural College (NSAC) others worked for the province as agrologists with the Department of Agriculture. I had many fond memories of times spent on my great uncle’s farm as well. It was these many and varied experiences that ‘tweaked’ my interest in agriculture.

I attended NSAC after high school with the intent of attending the University of Guelph and becoming a research technician... I am not sure why this was so set in my mind but it was. I graduated in 1981 and in the winter of 1983 joined the Department of Crop Science (now Plant Agriculture) as a Research Technician. For those that don’t know my past at Crop Science... I started working for Ed Gamble until his retirement working in Seed Production. I then shifted a number of times through agronomy based programs, working with Duane Falk, Thys Tollenaar, Tony Hunt, and Ann Clark.

Just over a year ago (2002) our Department Chair, Clarence Swanton, approached me to take on Information Technology (IT) duties for 60% of my appointment. I thought why not... perhaps it’s time for a change. So there I was. Then in early April 2003 Clarence once again asked me to change, once again in the IT field, now making my job fully IT related. So here I am. My IT duties now include being Plant Ag’s Webmaster in addition to support for Plant Ag personnel in the Bovey building here on campus, plus our off campus sites at Vineland and Simcoe, and the research stations at Elora, Kettleby, and Woodstock.

Over the past year I have attended a number of courses and training sessions trying to keep ahead on a ‘steep’ learning curve. Studying such courses as ‘PC Configuration’ basic and advanced, ‘Developing a Web Site: Hands On,’ as well as learning the new Windows XP operating system. Other sessions have included Linux and ‘Understanding Network Fundamentals’ as well as some personal development courses offered through the University of Guelph’s Human Resources Division.

I look forward to working with you in Plant Agriculture as a member of the IT support team and as the Department Webmaster.

Mike’s office is located in Room 3103 of the Bovey building in Guelph. His telephone number is 519-824-4120 ext. 56591 and his e-mail is mpeppard@uoguelph.ca
**AWARDS**

**Prof. Manish Raizada** receives Premier's Research Award

Manish is developing new technologies to pinpoint the genes responsible for regeneration in plants and to learn more about the environmental cues that cause those genes to switch on or off. The new technology will allow researchers to decode plant genes to understand why they are different from each other and learn more about the environmental cues that cause those genes to switch on or off. The ultimate goal is using the knowledge to enhance plant breeding and agricultural practices.

**Tannis Slimmon** receives Women of Distinction Award

Tannis received the Women of Distinction Award for Arts and Culture from the YMCA-YWCA of Guelph at a ceremony May 15 at the River Run Centre.

Tannis has enriched the local community since she arrived in Guelph in 1980. She has performed with the Reverbs, Big Smoke, Crows Feet, Benji, the University of Guelph Choir, Choral Stimulator and the Crying Out Loud Choir. She has released three albums and toured North America for 11 years as one-third of the cappella group Bird Sisters.

**CONGRATULATIONS!**

Nine students from the University of Guelph competed on Saturday, April 5, 2003 at the Mid-Atlantic Horticulture and Landscape Field Day held in Niagara. Twelve institutions from the U.S. and Canada participated. The students had the opportunity to select from 23 different categories in which to compete. Each student could compete in as many as three categories.

This was Guelph's first year competing in the Mid-Atlantic Field Day. Even so, Guelph was able to win 1 first, 1 second and 2 third place finishes in the individual competitions. In the overall standings, Guelph placed 5th out of the field of 12. Needless to say, our students were very excited about how well they did the first time out. They are already making plans for next year!

**CONGRATULATIONS HORT CLUB!!!**

At College Royal the Hort Club won:

1st in OAC

Grand Champion University Wide

1st Prize from the Ontario Institute of Agrologists for Public Education in Agri-Food

**IT'S A BOY** - On April 20, 2003, Hussain Ahmad celebrated the birth of his son, Fawad Hussain Khan weighing 7 lbs.

**IT'S A GIRL** - Yesenia Salazar gave birth to a daughter on May 23, 2003. Her name is Miranda and she weighed in at 7 lbs 13 oz.
HAPPENINGS

L. Anthony (Tony) Hunt
Professor, Wheat Breeding & Physiology, & Crop Modeling
Retired as of May 1, 2003. We will be celebrating Tony's many contributions to science and to the Department of Plant Agriculture early in the fall. Congratulations and best wishes on your retirement.

Thomas (Tom) E. Michaels
Associate Dean & Professor, Common Bean Breeding & Genetics, & Teaching Methodology
Has accepted the position of Chair, Department of Horticulture Science at the University of Minnesota, starting September 2003. Congratulations and we wish you every success in your new position.

WELCOME - Dr. Aleksandra Sudaric, Research Scientist with the Osijek Agricultural Institute in Osijek, Croatia, will be visiting the lab of Professor Istvan Rajcan in the Department of Plant Agriculture from May 12 to June 28, 2003. She will be working on a project related to genetic diversity in soybean germplasm. Please join Istvan’s lab in welcoming Aleksandra to our department for her sabbatical leave.

COMING EVENTS

Annual Twilight Meeting and Orchard Tour (featuring Cherry & Apricot Research) - July 16, 2003 starting at 6:30 p.m. at the University of Guelph, Department of Plant Agriculture-Vineland Campus. Highlights will include an opportunity to interact with researchers, technicians, and industry personnel, to tour our current sweet and tart cherry research plots and sample some of the new sweet cherry breeding selections. For more information contact Dr. John Cline by e-mail at jcline@uoguelph.ca or telephone at 905-562-4141 ext. 146 or Mrs. Debbie Norton by e-mail at dnorton@uoguelph.ca or telephone at 905-562-4141 ext. 122.

Canada’s Outdoor Farm Show 10th Anniversary - September 9 to 11, 2003 at the University of Guelph Research Station, Woodstock, Ontario. The 10th anniversary will be celebrated with the reconstruction of an authentic 100 year old octagonal barn live on site and special “big name” entertainment, along with all the other fun and informative things that the Farm Show provides. For more information go to http://www.outdoorfarmshow.com/

Rural Expo 2003 (International Plowing Match) - September 17 to 21, 2003, will be held on 1,000 acres of land in Beckwith Township near Carleton Place in Lanark County, ON. For more information go to: http://www.ruralexpo2003.ca/

Norfolk County Fair and Horse Show - October 7 to 13, 2003, will be held at the Simcoe Fair Grounds, 172 South Drive, Simcoe, ON. For more information go to: http://www.norfair.com/

The Royal Agricultural Winter Fair - November 7 to 16, 2003, will be held at the National Trade Centre, Exhibition Place, Toronto, ON. For more information go to: http://www.royalfair.org/
Library Happenings – Hot Coffee and More!

The McLaughlin Library is again using the summer to renovate, add, change, and improve services and access to information. The focus of physical changes this summer will be on the lower and main floors of the Library.

Main floor renovations include the addition of a Williams coffee cart and Internet café (where the maps use to be), creation of a vending area near the elevators with the usual machine selection of drinks, snacks, and basic stationery supplies, an expanded reference desk, and at long last new carpeting. With coffee and snacks provided there will be a more liberal policy toward food and drink in the Library. However, Library staff still would like clients to use travel type cups with secure lids and to refrain from cooking in the carrels (yes it has been done). In 2004, the main floor Learning Commons will be expanded and renovated to improve its visibility and accommodate more clients.

The lower floor of the Library housing the government documents is being reorganized with the addition of compact movable shelving. Space saved by consolidating shelving will be used to house the map collection moved from the first floor. The present plan is to keep the Canadian and Reference government documents on regular open shelves and locate less frequently used materials in the compact shelving. The Data Resource Centre will remain in its present location.

A major service initiative is the provision of in-house wireless access to library electronic resources. Clients with laptops will be able to use them anywhere within the Library. Users will need an 802.11b WiFi compliant wireless LAN card that is already in many newer laptops and can be installed in some older models. Laptops will also be available for borrowing from the reserve desk for use in the building. This improved computer access should reduce the lineups for library computers and make better use of study space throughout the Library.

To further improve service, data projectors are being installed in the various library teaching classrooms and meeting rooms. Self check-out of books will also be introduced in the fall to reduce delays when leaving.

The Library is actively investigating 24/7 service. Considerable consultation and pre-planning has gone into this undertaking and the experiences of other libraries offering extended and 24/7 hours have been reviewed. The present plan is to introduce extended hours in the fall of 2003 and move to 24/7 sometime in 2004.

With all of these changes and improvements the Library hopes to continue to be responsive to the challenges of not just servicing the double cohort but also providing convenient access to collections and services both physically and virtually to its many clients. Check the Library homepage “What’s New” section for further updates and details.
Greenhouse Gas Online http://www.ghgonline.org is a well designed web site about greenhouse gas science organized by Dave Reay, an environmental scientist at the University of Edinburgh. It contains references and links to articles and abstracts on climate change, global warming and pollution drawn from over 100 peer reviewed journals.

While not directly focused on agriculture, some recently featured papers include: “Mitigating carbon dioxide emissions from the Dutch glasshouse industry,” “Variation in root-zone CO₂ concentration modifies isotopic fractionation of carbon and nitrogen in tomato seedlings,” and “Model simulation of effects of changes in climate and atmospheric CO₂ and O₃ on tuber yield potential of potato in the European Union.” Many of the links open to full text articles.

An excerpt from an e-mail Jay Subramanian (Assistant Professor, Tree Fruit Breeder-Vineland) received from a colleague at the Mid-Florida Research and Education Center:

Subject: Dangerous alligator

Last evening there was a 6 to 8 foot alligator up near our building in the bushes, we called the Game commission and they never came. We had our workers search the area and have not seen it. Please do not go near any bushes or culverts, and be careful when you go outside. This is the mating season and they wander around. If you see it or any animal for that matter please do not attempt to get near it. Stay away and let us know and we will call people who are trained in controlling them, thanks.
Welcome to the September issue of our Departmental newsletter. As you read this issue you will find that there has been a plethora of activity over the summer. Members of our Department have been very busy with research, attending conferences, winning awards, and organizing field days and picnics. Within the pages of this issue, Deb Hilborn has done a wonderful job of profiling many of these events. I would like to especially acknowledge Dr. Istvan Rajcan who received the Outstanding Young Agronomist Award from the Canadian Society of Agronomy, Dr. Doug Powell was selected to receive the OAC Alumni Distinguished Extension Award, Dr. Barry Micallef was recently elected to the teaching committee of the Canadian Society of Plant Physiologists, and Dr. Praveen Saxena was awarded a Kenan Fellowship to study at the National Botanical Gardens in Hawaii.

As the fall term approaches several new students will be entering their graduate program. On behalf of our Department, I wish to express a very warm welcome to the following new students: Bandula Premalal Karunanayaka (PhD), Wesam Al-Khateeb (PhD) and Stephanie Serran (MSc) with W. Deen; Bahman Bahramnejad (PhD) with L. Erickson; Laura Palomeque (PhD) and Marie Andree Hamel (MSc) with I. Rajcan; Kang Liu (PhD) and Mohammed Alam (MSc) with E. Lee; Megan Stewart (MSc) with E. Lee/M. Tollenaar; Weidong Liu (PhD) with M. Tollenaar; Ali Taheri (PhD) with J. Subramanian/J. Cline; Jay Holmes (MSc) with D. Powell; Skye Campbell (MSc) with P. Pauls; Jason McCallum (MSc) and Andrew Montague (MSc) with J. Strommer; and Susan Slater (PhD) with B. Micallef. I wish you every success.

In addition to our new graduate students, we also have a new Departmental Executive Committee comprised of Dr. Dave Wolyn, who will be the new Associate Chair with specific responsibilities to our teaching programs; committee members Dr.’s Liz Lee, Al Sullivan, and Judy Strommer; and Ex Officio Jenny Van de Kamer. I am looking forward to working together with our new management team.

This September will see the initial launch of our new Turf Diploma program, under the watchful eye Rob Witherspoon. Rob has joined the Department as the new Director of the Turf Diploma program. Student enrolment is at full capacity with over thirty students scheduled to attend opening lectures. Several new sessional teachers with expertise in turf management have been hired and will be located within our Department for this coming semester. Dr. Julie Dionne, our turf specialist, has resigned from the Department to accept a position with the Royal Ontario Golf Association. Julie will be missed greatly in this Department. She was very instrumental in developing our new diploma turf program. Julie, on behalf of all members of our Department, I want to wish you every success in your new endeavour.

In mid-August we experienced the infamous “power outage” of 2003. This problem certainly caught my attention as I returned back from my summer vacation. I am most grateful to those members of our Department who worked so hard to minimize the potential damage to our growth facilities, labs and computer systems. Thank you!

Again this fall, we will be launching our United Way Campaign under the leadership of Lewis Lukens. We have as a Department shown our willingness to share with our communities through this campaign. Please welcome the canvassers when they come to visit and give from the heart.
So long, and thanks for all the alfalfa!

BY JEREMY FRIEDBERG

Well, I did it! Stick a fork in me—I’m done! I’ve defended! I kept heading toward the tiny light at the end of the tunnel—which for me, in addition to my Ph.D., ended with a broken ankle (but that’s another story). But I’m through and living testament—well ok, not really much testament, but living at any rate, that whether you like it or not you too will eventually graduate—and live to tell!

As my time as a grad student comes to an end in this department, so does my authorship in this column. Firstly, I’d like to thank all my readers—I’ve really enjoyed having my own place to speak freely and ramble but, more importantly, to have at least two or three of you actually read what I write. Secondly, a general call to all the grad students in our department—those interested in being my successor, please send an email to Deb Hilborn (dhilborn@uoguelph.ca). Of course for those who are interested, there will be the standard set of challenges to face including fire washing, tree hunting and the ever popular cross country ballroom dancing. Forgive me; I have recently been sucked into the Harry Potter books.

I shall now say goodbye. This department is a wonderful place and I’ll miss it when I’m gone. But a hearty thank you to all the staff, students and faculty who helped me to grow, learn and laugh. Any further questions can be directed to Heather’s cat (see previous issue). May we always live in interesting times and to reiterate what a wise man once wrote in my high school year book, “If you ever see a turtle on a fence post... you know it had some help.” Cheers, Jeremy.

Movie Line Contest

The winner of the last contest was Jason Deveau. Congratulations! Here are the new movie lines and again the first two individuals to e-mail me the correct movie titles will win pints of beer in the grad lounge (purchased by me of course). Good luck!

1. So do all who see such times...but that is not for us to decide...all we have to do is decide what to do with the time we are given.
2. Do you believe that, my being stronger or faster has ANYTHING to do with my muscles in this place? You think that's air you're breathing now?
3. The evil that men should turn their brothers into beasts of burden, to be stripped of spirit, and hope, and strength - only because they are of another race, another creed. If there is a God, he did not mean this to be so.
4. Twenty-five thousand bucks. That's a lot of money to pay for a dame without a head.

***************

Editor’s Note: Jeremy is located in the Crop Science building in room 427 and lab 419. His office extension is 58182 and his lab extension is 58185. You may also reach Jeremy at jdberg@uoguelph.ca

THANK YOU Jeremy for the laughs and the tears (because I was laughing so hard), for your willingness to give us some of your time by writing an article for each newsletter, and for allowing us to get to know you a little bit better with each submission. You will be missed.

Thank you DR. Friedberg.

Your friend, Deb Hilborn
Joanne Liu

Joanne began life in a small house with a very big backyard in Scarborough (an infamous city on the eastern border of Toronto). With easy access to marching ants, caterpillars, a vegetable garden, a strawberry patch, and more, thus began her fascination with flora and fauna of all kinds, and a deep appreciation for the workings of nature.

Over the years this fascination persisted obstinately, eventually bearing fruit in the form of an Hon.B.Sc. in Botany from the University of Toronto. This was a wonderful degree, incorporating a wide variety of courses from ecology, to taxonomy, to evolution, and mycology. By far, Joanne’s most memorable experiences as an undergraduate were from the field courses in Arctic ecology and winter mycology, and also from a course in plant pathology in which students were apt to forget their infected fruits and vegetables in the laboratory drawers. They would then be greeted a month later (when they remembered them) with an otherworldly fragrance in the lab.

Joanne moved to Guelph in May 2003, before her last exam as an undergraduate, and started a Master’s degree with Dr. Clarence Swanton shortly thereafter. She will be examining the effect of light quality imposed early in the life of corn on its biomass allocation later in life, and its potential to tolerate various stresses. So far, she thinks Guelph and its university are absolutely fabulous!

Chuthamat Atnaseo

I am also known as Ju in case you do not know who Chuthamat is. Ju is my nickname actually and Thai people usually have nicknames because their names are usually long, mine is probably one of the shorter ones. I grew up in a small village in Thailand where I spent my childhood days helping my parents on a rice farm. Besides growing rice, my parents also grow mango and vegetables as well as keeping cows, ducks, chickens and fish. We even had water buffalo once.

With a scholarship from the Thai government, I had the opportunity to come to study in Canada. Though I have been in Guelph for only three years, I have been here in Canada since 1995 spending one year in high school to improve my English before attending the University of Toronto and receiving a degree in botany. Being away from home is, of course, fun and exiting but not without difficulty. Thanks to the good people in Dr. Erickson’s lab, and the friends I found here, life in Guelph has been the best of my years in Canada. While here I have picked up some sports such as karate, soccer and golfing.

I have been working on a project about the expression of antimicrobial peptides in plants in Dr. Erickson’s lab and now I am in the process of writing my M.Sc. thesis. I hope to be done soon and to take a trip home to visit my family and hopefully come back to work on a Ph.D.
Lorraine was lovingly raised by her parents Louis and Nina and grandparents Cyril and Arminda in beautiful Goa, the Rome of the east and the smallest state in India, famous for the sun, golden beaches and Arabian Sea topped with its famous Caju Feni and wonderful locally cooked fish, pork and sweets. Goa was influenced by the Portuguese who came as traders, but conquered Goa in 1510 A.D. and left meekly in 1961 A.D. Hence, compared to other people in India Lorraine, as a Goan, has been exposed to the western European culture which was best for her.

Lorraine’s parents are highly educated and well placed. Her post-graduate mother worked for the Commissionerate of Customs and Central Excise in Goa until her unfortunate accidental demise in 1997. Her father works for the Government of Goa, Directorate of Sports, as State Basketball Coach and In-Charge, Regional Coaching Centre. He is the only Goan in the country and perhaps the whole world with a Master’s of Sports Degree, an I.O.C. Regional Coaching Certificate in Basketball and the 1st Advance Course in K-nanthropometry Certificate (International). He has attended numerous National and International Sports Science Clinics, Conferences, Seminars and Workshops and has numerous other qualifications and achievements to his credit.

It is in this backdrop that Lorraine was fired with the zeal to carve out a niche for herself in this world taking one step at a time. She studied in Goa’s best all-girl’s school, The Our Lady of Rosary High School, Dona Paula, where she took part in all curricular activities, including sports and represented the State at the Nationals on five occasions. Having done well academically, she joined St. Xavier’s Higher Secondary School, Mapusa, which is still Goa’s best Higher Secondary School. Here too she came out with flying colours and represented the College and the State in basketball.

She decided to make agriculture her future career, since rural based agriculture is still India’s base for employment, research, export and livelihood. She joined Kerala Agricultural University, the best university in South India, where she completed the B.Sc. Agr. program. She even represented the University in basketball. She was the most prolific scorer on her team in spite of being the shortest player in the whole championship.

After graduating, she came back to Goa and taught the XI & XII Horticulture Stream as a part-time teacher at the Govt. Higher Sec. School. After a period of one year she took up Horticultural contracts to make practical use of her newly acquired technical knowledge in the field and had a working stint with Farms and Garden Pvt. Co.

Lorraine joined the University of Guelph in the fall of 2002 where she was registered in the B.Sc.(Agr.) Horticulture Major program. In spite of being continents away from home, her father and only sibling brother Nigel, she threw her heart, mind, body and soul into her studies and attained the honour of being on the Dean’s Honour List for two semesters in a row (F’02 & W’03).

Lorraine began working with Dr. Barry Micallef in May 2003 on a very exciting project involving research on tomatoes. She is focusing on investigating the effects of photoperiod and continuous light on the growth and physiology of tomatoes. Currently, Lorraine is in the first semester of her Master’s degree.

Lorraine takes this opportunity to thank all those who helped her to reach this point in her career and looks forward to achieving many more goals in the Agricultural field, which will benefit Canada and India, in the future.
Eric James Wierenga

All my life I lived on a farm and loved every minute of it. I was born in Newmarket, Ontario on November 1st, 1979 and in a mere four years I was driving tractors all over the field. I grew up learning all about farming life and how to grow vegetables and flowers. We have 40 acres of land in the Holland Marsh with seven greenhouses dedicated to spring flower sales. When most of my friends were playing in town I was having my fun weeding as many fields as I could. This was before I received my first mountain bike. Then I was free to bike to town to visit all my friends. I was having the time of my life biking all over the place and not working as much. To my dismay one day I found out my bike was stolen. After being sad for a while I managed to buy a new racing mountain bike with the help of my parents. This was the start of my active lifestyle.

I started entering mountain bike races all over southern Ontario and trained as much as I could. I built up my scrawny frame into a lean mean biking machine. I also started rock climbing as much as I could indoors. After three years of racing I gave it up in 1998 to come to the University of Guelph to pursue my degree in Plant Biology. While here I found a new way to keep in shape and that was playing squash. You could find me on many days running after a small ball on the squash court. After a rocky start in the first few semesters at university, I managed to pull up my socks and graduate with my Honours Plant Biology degree in December 2002. During my degree I started working for Dr. Praveen Saxena in the Edmund C. Bovey building as a lab technician and continued there for one semester after graduating.

While working for Dr. Saxena I approached him and asked if I could pursue my Master’s degree under his supervision. He agreed and I completed my application forms. I was ecstatic when I found out that I was accepted to start in May 2002. Currently, I am four months into my degree working on increasing biomass and metabolite production in St. Johns Wort (Hypericum perforatum). Since starting my masters I have started biking once again and continue playing squash and rock climbing with my girlfriend, Jen. We even started pushing our limits of rock climbing by climbing outdoors.

I am looking forward to all the experiences both academic and leisure the Masters program has to offer me. Once finished, I would like to apply my knowledge as a greenhouse manager in Ontario.
Katija Blaine

Katija grew up in the small town of Sherkston, ON in the Niagara Peninsula. This September marks the ten-year anniversary of her arrival in Guelph to begin her undergraduate degree in the Academia program. She completed her B.A.Sc. in applied human nutrition in 1997. After living in Mississauga for eight months Katija decided to move back to Guelph and completed her M.Sc. in food safety and quality assurance in January 2000. Her research focused on communicating with consumers about genetically engineered Bt sweet corn. Katija has been working in the Department of Plant Agriculture ever since as a research technician for Dr. Doug Powell. It was her work in Dr. Powell's lab, the Food Safety Network (FSN), and his subtle suggestions that inspired her to pursue a Ph.D. in food safety risk analysis.

Never having been able to decide between studying sciences, social science or arts, Katija is lucky to have found a discipline of study that involves all three along with another of her favourite things, food. This past summer she has been working through the FSN as a consultant for the Ontario Tender Fruit Producer's Marketing Board helping them evaluate and implement their on-farm food safety program. When she is not driving around Niagara visiting fruit farms she enjoys many outdoor activities such as camping, canoeing, biking and ultimate Frisbee.

Ben Chapman, Liz Gomes & Lisa Mathiasen each presented sections of their masters research during technical sessions at the 90th International Association of Food Protection conference in New Orleans, Louisiana (August 10 to 13). All presentations were well received by the audience and each student received a travel grant from the Ontario Food Protection Association in appreciation for representing our province at this meeting.

Ben was also a finalist in the developing scientist competition. Congratulations Ben!

Presentation titles:

**Ben**: An examination of Food Safety Risk Management Behavioral Trends of Ontario Greenhouse Vegetable Growers

**Liz**: Development and Evaluation of an Educational Resource to Engage Senior High School Students in Dialogue Regarding Genetically Engineered Foods

**Lisa**: Spot the Mistake: What Television Cooking Shows Teach Viewers
WELCOME NEW GRADS TO THE DEPARTMENT OF PLANT AGRICULTURE

Bandula Premalal Karunanayaka (Ph.D.) with W. Deen
Wesam Al-Khateeb (Ph.D.) with W. Deen
Bahman Bahramnejad (Ph.D.) with L. Erickson
Laura Palomeque (Ph.D.) with I. Rajcan
Kang Liu (Ph.D.) with E. Lee
Ali Taheri (Ph.D.) with J. Subramanian/J. Cline
Weidong Liu (Ph.D.) with M. Tollenaar
Marie Andree Hamel (M.Sc.) with I. Rajcan
Jay Holmes (M.Sc.) with D. Powell
Stephanie Serran (M.Sc.) with W. Deen
Skye Campbell (M.Sc.) with P. Pauls
Mohammed Alam (M.Sc.) with E. Lee
Megan Stewart (M.Sc.) with E. Lee/M. Tollenaar
Jason McCallum (M.Sc.) with J. Strommer
Andrew Montague (M.Sc.) with J. Strommer
Susan Slater (Ph.D.) with B. Micallef
GRAD STUDENT PIG ROAST

On Friday, September 19 all OAC Grad Students and their guests are welcome to attend a Pig Roast. Tickets are $15 for one or $25 for two. For more information look out for posters or check out the grad web site at:

http://www.uoguelph.ca/~oacgsc

JANE COVENTRY has been awarded an American Wine Society Educational Foundation Scholarship for the 2003/2004 academic year. Five scholarships valued at US$2,500 are awarded from the pool of applicants. Jane’s particular award is the Columbus Ohio Chapter Scholarship. Jane is very honoured to have received this scholarship to support her studies.

REBECCA HARBU (M.Sc.) with J.A. Sullivan has been awarded an OGS (correction from June 2003 issue).

ANDREW MONTAGUE - has been awarded an NSERC Industrial Scholarship.

DR. DOUG POWELL - has been awarded the OAC Alumni Distinguished Extension Award for 2003 (T.R. Hilliard Distinguished Agricultural Extension Award).

The Alumni Foundation established this annual award to recognize persons who are making outstanding contributions to agricultural extension in Ontario. The award is named in memory of the late T. R. (Dick) Hilliard, former Deputy Minister of Agriculture and Food. It consists of a citation and $1,000. Previous winners of this unique and coveted award include some of the best known names in Ontario agriculture.

DR. BARRY MICALEF - was recently elected onto the Teaching Committee of the Canadian Society of Plant Physiologists.
**Dr. Istvan Rajcan** - has been selected as the Outstanding Young Agronomist for 2003 by the Canadian Society of Agronomy.

Dr. Rajcan is a native of Yugoslavia, where he received his B.Sc. in Agriculture in 1988. He moved to Canada and completed his Ph.D. with distinction in Crop Science at the University of Guelph in 1996. After a two year job as a Plant Breeder with the Saskatchewan Wheat Pool in Saskatoon, Istvan returned to the University of Guelph in 1998 as an Assistant Professor in the Department of Plant Agriculture. He was recently promoted to Associate Professor in the same Department based on his achievements in research, teaching and service to society.

Dr. Rajcan has a clear mastery of the art, science and application of plant breeding, as manifested in the total of 17 new soybean varieties released since he took over the soybean breeding program at the University of Guelph in 1998. This practical plant breeding is of fundamental importance to the soy industry in Ontario and Canada. Some of Istvan’s accomplishments include the development of molecular markers for resistance to soybean cyst nematode, white mold, rhizoctonia and markers for low linolenic acid and null lipoxygenase genes in soybean. He has also worked to develop soybean with modified fatty acid profiles and good agronomic characteristics, public Roundup Ready cultivars and techniques to enhance soybean isoflavones to help combat cancer and heart disease. In all of these efforts Dr. Rajcan has successfully integrated the traditional plant breeding disciplines with the newer promises and potential of molecular biology, while keeping in mind the real needs of the industry and growers.

These research activities have been carried out with collaborators from University, Federal and Provincial labs and industry groups. Dr. Rajcan is also involved in numerous international collaborative efforts to improve the adaptation and production of soybean in countries around the world. Locally, he is often invited to speak to farmer groups, especially select seed growers about soybean breeding and seed production issues. He enjoys every opportunity to meet and talk to soybean growers and has developed a strong and close relationship with the Ontario Soybean Growers.

Teaching and advising undergraduate students is a major focus of Istvan’s activities at the University of Guelph. He teaches courses in protein and oilseed crops, plant breeding and quantitative genetics. For his teaching efforts, he has been getting consistently excellent teaching evaluations from students in both undergraduate and graduate classes. His research program has been successful in attracting a number of national and international M.Sc. and Ph.D. graduate students working on a variety of projects involving soybean breeding and genetics. His research is funded by the Ontario Ministry of Agriculture and Food, Natural Sciences and Engineering Research Council of Canada, Ontario Soybean Growers and a number of industry partners.

**Dr. Praveen Saxena** - has been awarded a Kenan Fellowship to study at the National Botanical Gardens in Hawaii. This fellowship is awarded to only 12 outstanding biology teachers in North America each year.

The goal of the Kenan Fellowship is to improve the quality of biological teaching in issues of form and function, evolution, and conservation. The fellowship is awarded to those, who can fire the imagination of major and non-major biology students.
I’m Returning to Plant Agriculture

Those of you who have been around for more than five years will know who I am and I look forward to meeting a whole lot of new people. To those people, let me introduce myself. I’m originally from a farm near Milton and attended the Ontario Agricultural College (OAC), where I received B.S.A. and M.Sc. degrees in Agronomy (except my undergraduate major was called Field Husbandry). Back then (1961 and 1963), our degrees were from the University of Toronto (U of T) and OAC was a College supported by the Ontario Department of Agriculture and affiliated with the U of T. Two years later, the University of Guelph received its charter.

After my M.Sc., I went to Iowa State University for my Ph.D. in Crop Physiology. I returned to Guelph as a faculty member in 1966. By that time, I was joining the Department of Crop Science, which was housed in the grey building to the west of Macdonald Hall. Those were exciting times. We were going to get a new building and one of my first tasks was to work with the Purchasing Department to buy the equipment that was originally in the new Crop Science Building which opened in 1968.

During most of my early career I taught Crop Physiology and related courses and my research was first in corn and then in soybean production and physiology. In the fall of 1971, Jack Tanner and I made a presentation to the Ontario Soybean Growers’ Marketing Board and asked for $5,000 to establish strip trials of soybeans in each county east of London, which, at that time, was about the eastern limit of soybean production in Ontario. To my surprise, it was funded and we had to do it. With the help of Dr. Harvey Voldeng at Ottawa, we had a good, new, early variety called Maple Arrow, had learned that we could plant soybeans with a grain drill, and had at least one herbicide that would work. The plots were mostly successful and there was an oil shortage that fall, resulting in a top price for soybeans of about $11.00 per bushel. Soybeans were on their way across Ontario and on into Quebec. Later I tried, along with other people, to introduce canola into Ontario but it never has had the same success as soybeans.

From 1972 to 1974, my family and I were part of the Ghana Project, which was a team of expatriate faculty at the University of Ghana who taught there while Ghanaian graduate students came to Guelph and other Universities for graduate training and then came back to Ghana to replace us. For a number of years afterward there were a substantial number of Ghanaian graduate students here at Guelph.

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I was the Chair of the Crop Science Department before Clarence, from 1992 to 1998. Since then I have been with the Office of Research, helping to run the OMAF (Ontario Ministry of Agriculture and Food) Contract. This contract with the OMAF is currently worth $50.5 million a year and supports research, diploma education, a program in the Ontario Veterinary College called the Veterinary Clinical Experience Program (VCEP) and Laboratory Services. Many of the technicians and some of the salaries of faculty and secretaries in this Department are supported from this Contract.

Starting in 1998, I have successively been the Plant Research Program Leader, the Executive Director of the OMAF Contract, and then the Associate Vice-President, Research, for Agri-Food and Partnerships. Now I’m stepping down from administration. I have two years left until retirement and I look forward to doing some research, collaborating with Hugh Earl, writing up some of the good research that Joe Omeljan and Godfrey Chu have conducted in my absence, and getting to know a whole lot of new friends.

Dave’s office is located in Room 204 of the Crop Science building in Guelph. His telephone number is 519-824-4120 ext. 53388 and his e-mail is dhume@uoguelph.ca

On July 21, a surprise gathering was held to celebrate Dr. Dave Hume’s service as Associate Vice-President, Research, for Agri-Food and Partnerships and to recognize him for his dedication, hard work and his contributions to the University/OMAF partnership. Thanks Dave for all the help you gave to our department!
The following interview was recorded by a graduate student, C. Atnaseo (see also this issue), for submission to the Plant Agriculture Newsletter. Colombo is a parrot from Columbia and the lab mascot.

Colombo: OK, Biglar (Erickson), Deb wants this tomorrow, and I can tell by her email that she’s not one to be trifled with.

Biglar: Bueno, my fine feathered friend from the jungles of the Putumayo, lead the way.

C: Speaking of jungles, I hear you’re from northern Ontario.

B: Si, amigo. I grew up in various mining towns such as Timmins and Kirkland Lake, and a typical family week-end for me included fishing, hunting or prospecting or all three; you learn how to use dynamite at a young age in that country. One of my grandfathers made an heroic attempt at farming up there, but failed miserably; he was a much better diamond driller than farmer. Ah, the mining stories I could tell, especially about gold. I actually staked claims as a teenager in the Rush of ’64.

C: Save that for the grad lounge, but I guess it explains all the rocks here in your office. Tell me about your academic roots.

B: Languages were my first love and my first degree was in French and Latin from the University of Western Ontario. I took my teacher training from the University of Toronto, but quickly found that most high school students did not share my interest in languages, so I turned to law at the University of British Columbia. Although I enjoyed law as an intellectual exercise, law students are, by and large, an insufferable lot, so I moved on to a variety of jobs in mining, pulp and paper, and even the environmental movement (not Greenpeace). At this time, i.e. early seventies, shortages of grain and other agricultural commodities were major ongoing news stories, so agriculture attracted my attention, plant breeding in particular. The University of Guelph was the obvious choice, but I lacked the maths and sciences, due to my previous preoccupation with languages. Therefore, at age 28 I returned for a full year of Grade 13 at Riverdale Collegiate in Toronto, much to the amusement of my teenage classmates. All my science degrees are from Guelph.

C: You did a stint in the biotech industry, n’est-ce pas?

B: I worked for 5 years as a Research Scientist with Allelix Inc. in Mississauga in the mid eighties. Allelix was the premier biotechnology company in Canada at that time and a very exciting place to be. At its height, it employed 200+ people, recruited from around the world, working on a range of projects including hybrid canola, which was why I was there. During that time, I came to know many researchers in the industry and saw many companies come and go. The biotech industry reminds me of the mining exploration industry I grew up in, “staking claims” on hot genetic properties with promises of cures, miracle plants, etc, etc. Ah, the characters I’ve met and the stories I could tell.

C: Grad lounge, grad lounge. How about a quick overview of your research?

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B: My early work was in Brassica organelle genetics, especially related to cytoplasmic male sterility because of an applied interest in hybrid canola. Probably my most significant contributions were the demonstration of pollen transmission of mitochondria and an associated plasmid, and three hybridisation patents with co-inventors W. Beversdorf and I. Grant, which have brought royalties to the university in excess of a million dollars. About eight years ago I became enamoured with the idea of using plants to produce therapeutic proteins, such as antigens for vaccines, growth factors and antimicrobial peptides. These projects were large and complex, involving colleagues in the Ontario Veterinary College, and the Departments of Food Science and Animal Science. The interdisciplinary nature of these projects forced me to read extensively in areas such as immunology and animal physiology. As a result, I now feel quite comfortable in much of that literature, and must confess that I now find much of the literature in plant biology (a la Plant Cell) quite boring. I have also had to re-tool in the area of protein chemistry in order to analyse for the presence and activity of these proteins in plant tissue; my initial impression is that it is much more difficult to work with proteins than DNA or RNA, and bioassays bring a whole new level of complexity to our experiments. I guess my challenge is to bring back what I have learned from animal biology to my work with plants and refocus my basic research which has all but disappeared in my preoccupation with these “molecular farming” projects.

However, new possibilities for molecular farming have opened up for us with our development of an inducible gene expression system. There are many examples now of the problems associated with expressing foreign proteins in plants at high levels using constitutive or tissue-specific promoters: stunting, distorted leaves, shrivelled seed/tubers/fruit; sterility. Furthermore, the synthesis of commercial enzymes such as proteases, cellulases, xylanases, and lignases are very problematic for plants. The microbial people solved this problem a long time ago by means of inducible systems and a grad student in our lab, Jian Zhang, has been isolating alfalfa genes which are induced following harvesting. Wendy Shearer, another grad student in the lab, is characterizing expression of these genes in a range of tissues and following various treatments with real-time PCR. Northern analysis has previously shown that all are induced by harvest and some are induced by other treatments as well, which expands their possible applications. Transgenic tobacco plants containing the GUS gene controlled by these promoters show the same pattern of expression as in alfalfa, suggesting they can be used in any plant, and some are stronger than the 35S CMV promoter. To demonstrate the utility of this approach, Phil Snelgrove, an M.Sc. student, has transferred to tobacco a gene for epidermal growth factor fused to both inducible and constitutive promoters. Similarly, Chuthamat Atnaseo (see this issue), is adopting the same approach to expressing antimicrobial peptides in tobacco. In addition, Lig Taurins has recently joined our team as a technician, and has been instrumental in maintaining all our transgenic material for testing and multiplication. This technology is well protected by a patent, and we are pursuing licensing arrangements with companies and other researchers to examine some of the many possible applications.

C: One final question: When are we going back to Colombia?

B: Have the crows been making fun of you again? They’re just jealous of your flaming plumage, lively personality and ability to swear in three languages.

C: Sometimes I feel like I’m just another souvenir like these rocks or a convenient literary device stored on a shelf.

B: Save it for the grad lounge.

Larry’s office is located in Room 410 of the Crop Science building in Guelph. His telephone number is 519-824-4120 ext. 53398 and his e-mail is erickson@uoguelph.ca
A Look at Intel's Centrino Mobile Technology, by Jim Hoare

Intel made its boldest move yet in notebook computing in January 2003 with the unveiling of Centrino Mobile Technology, a platform that extends beyond the processor and is designed exclusively for mobile computing.

Centrino promises better battery life without sacrificing performance. Centrino also adds wireless networking into the mix. Does it do what it claims? Centrino notebooks outperform Mobile Intel Pentium 4-M based notebooks with higher clock speeds. With longer battery life, this next generation of notebooks showed stellar results.

What's in a name?

First and foremost, Centrino is not Intel's latest processor, but a series of components that work together. If one piece of the puzzle is missing, the notebook doesn't receive the Centrino stamp of approval. Centrino includes three components:

- **Intel Pentium M processor**
  The processor boasts 77 million transistors on a 0.13 micron die. Intel claims the processor consumes an average of less than a Watt. Notable features include 1MB of power-managed L2 cache, 400 MHz bus, the next generation of Enhanced Intel SpeedStep, and a slew of other acronyms and technical terms.

- **Intel 855 chipset**
  This chipset can dynamically adjust power for system components that aren't being used. The 855 chipset supports USB 2.0 and 2GB of 200/266 MHz DDR memory. Embedded graphics chipsets will also be available. Lacks FireWire support.

- **Intel Pro Wireless 2100**
  The final piece of the Centrino puzzle is integrated wireless connectivity by way of a mini-PCI card. Centrino will debut with 802.11b, but future versions will include 802.11a/b combo cards. The Centrino platform has been tested with major 802.11b service providers worldwide for compatibility and efficiency (see - Worldwide Hotspots).

- **Power management**
  The system manages power consumption by turning off areas that aren't in use. For example, if the hard drive isn't being used, the controller chip is shut off to conserve power. All told, around a dozen separate power areas exist.

TechTV Labs tested four notebooks with the Centrino architecture, two Pentium 4M-based laptops, and a Pentium III M notebook. They also tested with the LAME encoder to convert a large 413MB .wav file to a 96Kbps MP3 file. Encoding focused on the processor and provides a good indication of its performance. Other components like memory and the hard drive also play a part, but most of the work is processor focused. Refer to: http://www.techtv.com/screensavers/products/story/0,24330,3420531,00.html for the complete test results.

The Pentium M-based notebooks were the clear winners in the group. Compared to the 2.2-GHz Pentium 4M-based Toshiba Satellite Pro 6700, the Pentium M notebooks showed a 5.4 to 23 percent improvement in performance despite having a clock speed 38 to 57 percent slower.

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With the Centrino-based notebook, battery life showed a noticeable improvement in most cases, even at maximum performance. Notebook makers accomplished this by adding significantly larger batteries. For example, the IBM ThinkPad T40 now includes a 71.3 Watt-hour battery; the T40's predecessor, the T30, had a 47.5 Watt-hour battery. Battery size or not, this next generation of notebooks still showed impressive battery life.

Centrino or Pentium M notebooks are definitely worth considering if you're a notebook user on the go. If you're more likely to leave your notebook at a desk, then the Pentium 4-based notebooks can be found for less money. You'll sacrifice mobility, both in battery life and size, but you'll be left with cash in your wallet.

**Worldwide Hotspots** - locations where users can connect using 802.11 wireless technology are on the rise, enabling users to be more mobile than ever. According to industry analyst firm IDC, there will be more than 118,000 hotspots worldwide by 2005. As part of the introduction of Intel Centrino mobile technology, Intel has been working with leading wireless network service providers, hotels, airports, retail and restaurant chains worldwide to accelerate deployment and increase awareness of wireless public hotspots. In addition to marketing and promotional activities, Intel developed the Wireless Verification Program which includes engineering and testing of Intel Centrino mobile technology with various access point devices, software combinations, hotspot locations and wireless service providers to verify they are compatible, further enhancing the end user's wireless experience. Intel's efforts worldwide have already resulted in thousands of verified hotspots. The company expects to verify more than 10,000 by the end of the year.

On a local note: starting in September 2003, the McLaughlin Library at the University of Guelph's main campus will be wireless. This will allow all library users having computers equipped with wireless LAN cards to access the Internet anywhere in the McLaughlin Library building. Refer to: [http://www.lib.uoguelph.ca/Systems/Wireless/](http://www.lib.uoguelph.ca/Systems/Wireless/) for the full story.

However, if there's a potential weakness in the Centrino technology, it lies in its wireless transceiver. Intel doesn't have a track record of building those chips. What's more, Centrino only offers one flavor of Wi-Fi for now -- the 11 Mbps 802.11b, not the faster "a" or imminent "g" versions. And, do you want Wi-Fi integrated into your system anyway? After all, removable Wi-Fi PC cards are cheap. They're easy to plug in and out, and they're eminently upgradeable.

Whatever you decide, shop carefully. Centrino and Pentium M adds to the confusion by adding two more labels to an already extensive list. Now you'll see notebooks with Pentium 4, Pentium 4M, Celeron, Mobile Intel Celeron, Centrino, Pentium M, and a series of Low Voltage (LV) and Ultra Low Voltage (ULV) sub-brands. Note the slower clock speeds of the Pentium M chip, which balks at the notion that bigger numbers are a better concept -- ironically an Intel marketing strategy.

**References**

"Intel Announces Centrino™ Mobile Technology Brand Name"
[http://www.intel.com/pressroom/archive/releases/20030108corp.htm](http://www.intel.com/pressroom/archive/releases/20030108corp.htm)

"First Look: Intel Centrino Mobile Technology" by Hahn Choi
[http://www.techtv.com/screensavers/products/story/0,24330,3420531,00.html](http://www.techtv.com/screensavers/products/story/0,24330,3420531,00.html)

"Inside Intel: Here's the truth about Centrino" by Patrick Houston
[http://www.zdnet.com/anchordesk/stories/story/0,10738,2913188,00.html](http://www.zdnet.com/anchordesk/stories/story/0,10738,2913188,00.html)

"The Library Goes Wireless"
The 2003 Northeastern Weed Science Society Collegiate Competition was held July 29th at Syngenta’s Eastern Region Technical Centre near Hudson, New York. Along with the University of Guelph, teams from North Carolina State, Virginia Tech, Pennsylvania State, Cornell, NSAC, and SUNY Cobleskill participated in the competition. The Guelph team was coached by Clarence Swanton and François Tardif with assistant-coach Cheryl Corbett. The graduate team consisted of Shawn Winter, Sara Mohr, Mike Bakker and Cheryl Corbett. Cheryl placed second overall at the graduate level and first overall in the herbicide injury identification portion of the contest.

Guelph performed outstandingly well in the undergraduate competition, placing first and third in both the team and individual categories. The first place team was composed of Jon Klapwyk, Ryan Hoegy, and Cain Templeman, and the third place team members were JeffJacques, Greg Wilson, and Rod Crinklaw. Jon Klapwyk placed first in the undergraduate individual category, Ryan Hoegy placed third, and JeffJacques was only two points behind in fourth place. The undergrads got the highest marks in 7 out of 8 farmer problems and also won the sprayer calibration and herbicide injury events at the undergrad level. Way to go, undergrads! The coaches would like to thank Peter Smith, Kevin Chandler, Mike Cowbrough, Ian MacDonald, Peter Sikkema, Darren Robinson, and Kris Mahoney for their time, wisdom, and assistance. Your knowledge directly contributes to our success every year. We would also like to thank Beth Livingstone and Jenny Van de Kamer for their help, and our corporate sponsors for their assistance.
A very successful grape open house and tailgate tour was held on Monday, August 18. It was a three stop affair, with speakers and plot tours at all three locations.

At the University of Guelph Home Farm in Vineland Station, Kevin Ker of Ker Crop Management Services discussed the winter injury survey and some of the preliminary findings linking drought and crop stress from last growing season to the injury seen this growing season. Dr. Lorne Stobbs of Agriculture and Agri-Food Canada/Vineland spoke at length about crown gall and the problems that are going to be very evident within the next several growing seasons as a result of the injury incurred during this past winter. This topic attracted a lot of discussion from the audience. Following this, Dr. Wendy McFadden-Smith of McSmith Agricultural Research Services spoke about the fungicide efficacy work she is undertaking at this site. A tour of the plots showed considerable variation in the success and failure of new, reformulated and/or alternative products for mildew (powdery and downy) control. The growers and winery representatives were very interested in the alternative materials as there is a growing attempt for many operations to begin organic methods of crop production and protection.

The second stop on the tour was Thirty Bench Winery in Beamsville. At this commercial site, Jane Coventry, Ph.D. student with Dr. Judy Strommer of this department, showed us the reflective mulching studies that are being undertaken under an IRAP/NSERC grant with Dr. Andy Reynolds of CCOV/Brock University. These reflective materials are being used to enhance anthocyanin production and other complex flavonoids as well as hastening the ripening process in general. We also heard from Maria Derkacz of Inpras Consulting about soil moisture measurements and mulching with wood chips for soil moisture conservation. This is work, also IRAP sponsored, at Peller Estates in Niagara-on-the-Lake with VandenBussche Irrigation of Delhi as the other industrial partner providing the instrumentation.

Our third stop was at the University of Guelph’s Rittenhouse Grape Research Station on Cherry Avenue in Beamsville. At this site, we heard from Gerry Walker, special projects co-ordinator for the Grape Grower’s of Ontario as well as the Tender Fruit Growers’ Marketing Board, about the projects being sponsored by these two grower groups. The audience then had a tour of the farm and the large projects initially sponsored through the Grape and Wine Adjustment Programme in the early 1990’s. These plots (3 hectares of mature vines) should be in their prime, being just 10 years old, but they incurred serious damage over the past winter. Much discussion took place with the audience over the role of trellising system, topography, rootstock and cultivar in the variability of injury found throughout the Niagara Peninsula, and indeed the province. There was great interest in the role of stress and soil management on these results as well, and several winery representatives expressed interest in alternative and/or native plants for the vineyard floor.

The day was wonderfully hot, without a cloud in the sky. Our attendance was about 60-70 during the day. We had visitors from all over the Peninsula, big growers and small ones, big wineries and small ones, juice growers and wine growers, and a few from New York. All enjoyed gourmet hamburgers and back bacon grilled to perfection by Ken Slingerland of Ontario Ministry of Agriculture and Food (OMAF) at Vineland and our own Station Manager, Ray Kaczmarski (finally found his calling!!). Ray and Ken were also ably assisted by John Jansen, Brian Piott and my three students, Jill Verbeek, Katherine Vetraska and Marie-Noël Bérubé. I would like to thank Ken Slingerland (OMAF) for coordinating the day and all the “run-around” assistance of his student Nikki Huggins. We missed you, Clarence, but it was understandable that the university proper was a little hectic that day. We had a glass of wine in your absence anyway!
The Department of Plant Agriculture hosted the inaugural 4-H Field Crops Day at the Elora Research Station on July 21, 2003. The event was held in conjunction with 4-H Ontario and the Field Crops Committee of the Royal Agricultural Winter Fair (RAWF). By all accounts it was a very successful day—especially because the rain that threatened all day held off until all the tours had finished.

This event was developed to assist 4-Her’s in acquiring background information for the RAWF display competition which is based on the theme ‘From the Seed to the Table.’ This year the featured crops are the cereals: barley, oats and wheat. The displays are part of the evolving role of the RAWF in moving from an international agricultural fair to an opportunity to educate and entertain the attendees on the role and function of modern agriculture in Ontario and the world. The 4-H display competition is being used as a vehicle to deliver the message to the increasingly urban and suburban public that attend The Royal. The concept of using the 4-Her’s, in conjunction with the field crops display developed over the winter, was a brain-storming session of the Field Crops Committee with RAWF president Don Rickard. Department Chair Clarence Swanton and OAC Dean Craig Pearson enthusiastically supported the concept of educating the agricultural youth in what we are doing so that they can in turn educate those who are further removed from the agricultural environment.

More than 60 4-Her’s ranging in age from 11 to 19, and a number of leaders from around the province attended the Field Day. Five dedicated girls from Peterborough got up at 2:00 in the morning to catch a bus to Toronto and then on to Guelph to attend. The morning started with an inspirational welcome to the Department’s Elora Research Station by Department Chair Clarence Swanton. Rob Black, Director of 4-H Ontario discussed the role of 4-H in agriculture and in The Royal, while chair of the RAWF Field Crop Committee, Eric Bowman, outlined the display competition rules and regulations. He also explained how the Field Day offered an opportunity for the 4-Her’s to get a behind-the-scenes look at what was coming along in cereal crop production. Duane Falk, cereal breeder in the Department, explained the program and process of the wagon tours of the research plots. A particular challenge was matching the colour coding on the name tags to the different balloons on each wagon to ensure that everyone got to where they were supposed to be going. Joe Ommelian caught much of the action in the photos that are included in this report.

The bulk of the day was spent visiting several different research plot areas dealing with cereal production. Wagon tours included discussions of pest management, wheat breeding, barley and oat breeding, and rotations and tillage practices related to cereal crop production. Tours of the dairy, beef, and pasture research units were also included because ‘everybody loves animals,’ and much of the cereal grain in the province is used as feed for livestock.

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In addition to being exposed to some of the research being conducted at Elora, the day also featured a liaison officer from the Admissions Office who talked to prospective students at lunch time about the educational opportunities in OAC and the University of Guelph. After all, 4-Her’s are generally bright young people who are already interested in agriculture, so where better to recruit potential Aggies?

Many of the Elora station staff, and technicians and summer students from several programs volunteered to make the whole show happen. They worked as tractor drivers, wagon hosts, parking attendants, and ran the registration desk. Their efforts in ensuring that everyone had a safe and educational visit to the Elora Research Station were a large part of the success of the event. Sponsorship support by Syngenta Seeds Canada Inc, Speare Seeds, and Quality Seeds contributed to keeping the event affordable and in providing a very nice lunch and drinks for everyone. The local organizing committee consisted of Donna Hancock, Aaron Bowman, and Duane Falk.

There is already discussion about doing it again next year when a different commodity will be the featured crop. The linkage of 4-H, The Royal and Plant Agriculture seems to be a good fit. Come to the Royal Agricultural Winter Fair in November and learn more about the role of cereal grains in taking food from the seed to the table.

On June 20, 2003 the Simcoe Research Station held their very first U of G/OMAF Staff Golf Tournament at Woodside Greens Golf Park in Simcoe. In total, 28 people attended and a great time was had by all. Team rivalry was high and everyone got into the spirit with team names and logo’s.

The 2003 Organic Field Day was held on July 26 at the Guelph Organic Test Site, Ignatius Jesuit Centre on Highway 6 just north of Guelph. Despite the heavy downpour just as it was getting started, there was a good turnout. The ‘tour’ commenced with everyone gathering in the barn to wait out the rain. Les Eccles presented the results of his trials assessing the competitiveness of different varieties of oats with different seeding rates and seeding methods from 2002. His conclusions were that the grain yields were similar across the three higher seeding rates, but the level of weed biomass was reduced incrementally with each increase in seeding rate. The broadcast seeding was not as high in grain yield nor did it suppress weeds as much as comparable rates of drilled seeding. There were differences among varieties with Ida yielding significantly more straw and grain than other varieties.

Since the rain had not let up, Duane Falk continued the ‘tour’ by describing his work on comparing heritage varieties of oats and barley under organic and conventional management. After two years of comparative trials, the newest varieties are significantly out-performing the older varieties under both organic and conventional management. The conventional site is producing higher yields, particularly in 2002 when the conditions were generally more favourable for spring cereal production. The grain quality (kernel weight and test weight) are generally better for both oats and barley under organic management.

The rain had eased up, so the tour actually went to the research area where Ann Clark discussed the cover crop trials being conducted at the research site. The various legumes, grasses, and broadleaf covers were demonstrated and their attributes explained. Participants also inspected the oat and spring cereal test plots.

The afternoon continued with Lorne Jamieson, Ignatius organic farm manager, conducting a tour of the rest of the farming operation where he explained their management plan and rotations designed to utilize each ecological zone to the best advantage. Ann Clark also discussed some of the pasture management that is being used with the cow/calf operation that is part of the Ignatius mixed farm.

The tour provided an opportunity for interested members of the public and farmers to see what organic research is being conducted at the test site and to discuss current topics of interest to the organic community. Beverages and cookies were provided by OntarBio. The Guelph Organic Test Site is sponsored by OntarBio, the Ignatius Jesuit Centre, and the University of Guelph. The first Organic Field Day was held at the Elora Research Station in 2000 where it was hosted by the Department of Plant Agriculture. The Guelph Organic Test Site evolved from discussions initiated at that first Field Day.
Open house’s for both public and industry were held on July 22 and 23 at the Guelph Trial Garden located on the grounds of the Guelph Turfgrass Institute (GTI). The Guelph Master Gardeners were on hand to help make visitors to the garden feel welcome and to help answer gardening questions. Over 160 visitors had the opportunity to tour the garden and to vote on their favourites. The favourites from the voting are listed below. Multiple names under one number indicates a tie.

1) Ornamental Millet - Purple Majesty
2) Rudbeckia - Autumn Colours
3) Celosia - Fresh Look Red
   Gazania - Frosty Kiss Mix
   Gazania - Kiss Bronze
   Morning Glory - Cameo Elegance
4) Rudbeckia - Toto Gold
   Trachelium - Jemmy Violet
   Zinnia - Swizzle Cherry and Ivory
   Cleome - Sparkler Mix
   Verbena - Serenity Mix
5) Osteospermum - Margarita Maria
   Zinnia - Dreamland Mix
   Zinnia - Swizzle Scarlet and Yellow

I would like to thank the Master Gardeners as well as the staff of the GTI, volunteers and other helpers from Plant Agriculture and my summer student Tanya Steffler for making the event a success.

Rodger Tschanz
Guelph Trial Garden Manager

On opening day, I took the opportunity to visit the trial garden at the Guelph Turfgrass Institute (GTI). I must say that I was very much impressed. There was a large variety of perennial and annual horticultural plants beautifully displayed and organized. It was obvious that a lot of time, thought and work had been put into the presentation of the garden. Not only that, but the master gardener’s group of Guelph had been brought on board to help explain gardening tricks and tips to anyone who asked. The commitment and work put into this project puts the Department of Plant Agriculture and the GTI in a very positive light. Therefore, I think the project leader, Rodger Tschanz, should be commended and recognized for this contribution to our department. I also recommend that everyone should take the time to visit the garden; not only for their own enjoyment, but to show support and appreciation to Rodger. The garden will be on display for a few more weeks.

Thanks Rodger. It’s gorgeous!

Wendy Allan
PhD Candidate
Department of Plant Agriculture
Participants had splashes of fun from head to toe!

Eric Wierenga "Chucks the Chicken" while his teammates cheer on! Don’t worry folks no chickens were harmed ;-) 

Clarence took home first place in the Wheel Barrow Race. Down home Plant Agriculture fun!

Kids and grown-ups alike joined in for some beach volley ball fun in the sun!

Guess who?
The Variety Club would like to host potential trips to the Stratford Festival, Mohawk Raceway, and to the Wine Region of Niagara (the trips that will take place will depend on adequate interest by Departmental members).

**CHRISTMAS PARTY**

The Departmental Christmas Party will be held on **Thursday, December 11** at the Cutten Club in Guelph, so note this date on your calendar.

**UNITED WAY CAMPAIGN**

The United Way Campaign for 2003 will soon be kicking off, all are encourage to give generously. The United Way has a tremendous, positive effect on our community every day. Your contribution funds programs to help provide local families with access to safe and healthy food, to assist people with head injuries with daily living and social skills, to assist the terminally ill and their caregivers, and to provide assistance to many others. In the past, the members of Plant Agriculture have been very generous. This year, we would like to increase the number of donors and achieve a participation rate of over 30%. Pledge cards will be distributed early this fall, and contributions from Plant Agriculture members that do not live in the Guelph area can be routed to your local United Way. Please give generously!

**CONGRATULATIONS** - to Lynne Cameron (technician with Dr. Lewis Lukens) on her marriage to Paul Oslach on Saturday, May 17. The couple were married on a cliff in Everton, Ontario.

**IT’S A BOY** - on Saturday, June 14, Li Guo (technician in Dr. Rajcan’s lab) gave birth to her second son, YiMo weighing 7 lbs. Mom, Dad and boys are doing well.

**STUDENT “THANK YOU” BBQ IN VINELAND**

Ray KaczmarSKI, Vineland Station Manager, organized a BBQ luncheon as a way of saying “Thank You” to all the students that have worked at our Vineland Campus this summer. There was lots of food and fun for everyone. The peaches and ice cream were a definite hit!
Julie Dionne
Assistant Professor, Turfgrass Management

Julie has accepted the position of Director of the Green Section with the Royal Canadian Golf Association (RCGA). Dr. Dionne will be leaving the Department as of September 2003. Her mandate with the RCGA is to coordinate and promote turfgrass research in Canada and to develop, maintain and disseminate agronomic and environmental information for over 1,600 Canadian golf courses. We wish you much success in your future.

COMING EVENTS

Canada’s Outdoor Farm Show 10th Anniversary - September 9 to 11, 2003 at the University of Guelph Research Station, Woodstock, Ontario. The 10th anniversary will be celebrated with the reconstruction of an authentic 100 year old octagonal barn on site along with all the other fun and informative things that the Farm Show provides. For more information go to: http://www.outdoorfarmshow.com/

Rural Expo 2003 (International Plowing Match) - September 17 to 21, 2003, will be held on 1,000 acres of land in Beckwith Township near Carleton Place in Lanark County, ON. For more information go to: http://www.ruralexpo2003.ca/

Norfolk County Fair and Horse Show - October 7 to 13, 2003, will be held at the Simcoe Fair Grounds, 172 South Drive, Simcoe, ON. For more information go to: http://www.norfair.com/

25th Annual Canadian Greenhouse Conference - October 8 & 9, 2003, will be held at the International Centre, 6900 Airport Rd., Mississauga (Toronto), ON. For more information go to: http://www.canadiangreenhouseconference.com/

Ontario Pest Management Conference - November 6, 2003, will be held at the Victoria Park East Golf Course, Guelph, ON.

The Royal Agricultural Winter Fair - November 7 to 16, 2003, will be held at the National Trade Centre, Exhibition Place, Toronto, ON. For more information go to: http://www.royalfair.org/

2004

Landscape Ontario Congress 2004 - January 13 to 15, 2004, will be held at the Toronto Congress Centre, Toronto, ON. For more information go to: http://www.locongress.com/

Canada Blooms - March 3 to 7, 2004, will be held at the Metro Toronto Convention Centre, South Building, Toronto, ON. For more information go to: http://www.canadablooms.com/

4th International Crop Science Congress (4ICSC) - September 26 to October 1, 2004, will be held at the Brisbane Convention & Exhibition Centre, Queensland, Australia. For more information go to: http://www.cropscience2004.com
Subject and Course Guides
For many years the library has offered single page Subject Information Sheets or Pathfinders on various topics. Their purpose is to lead library users to resources pre-selected by library staff for various disciplines. Paper copies are available from displays on the first and second floors near the reference desks. The guides are also available online, and in that format include direct links to electronic and internet resources, including ejournals and journal indexes, as well as pointers to traditional reference aids such as handbooks, manuals and specialized encyclopedias and dictionaries.

There are presently guides for agriculture, agricultural economics, bioethics, biotechnology, botany, entomology, environmental science, food science, forestry, horticulture, land resource science, rural extension, and landscape architecture. There are also library tutorials for biology and Chemical Abstracts, a graduate student guide for the sciences, and a guide for teaching methods.

The list above reflects subjects that may be of use to faculty, staff, and students in the Department of Plant Agriculture. Others are available for a variety of courses and topics. The guides can be found on the Library Web Page under the heading “Getting Started.” The direct web address is http://www.lib.uoguelph.ca/pathfinders. As the heading suggests, this is a good starting place. It is also a good place for quick reference leads. Take a look and browse through the guides. If you have suggestions for additions to any of the guides the library would be pleased to have your input. If you would like a subject or course guide developed and added to the listing please don’t hesitate to contact me.

RACER – The New InterLibrary Loan System
This summer the library moved to a new interface for InterLibrary loans. The name of this system is RACER and it allows you to place interlibrary loan requests on your own. This system is now the standard software for all Ontario university libraries and will process loan requests more quickly. Through the tracking feature you can monitor the progress of your request. Requests for journal articles from any of the Tri-University Group of libraries (Guelph, Waterloo and Laurier) can be initiated by simply clicking on the “Request Item” button at the top of the TRELLIS search page. Filling out forms will be much easier as portions of the forms are filled in automatically.

RACER does require one-time only registration and the creation of a user profile. Requests can be created by searching across various library catalogues or a blank III...
WEB SIGHTS

by Judy Wanner

Agri-food biotechnology is a topic well represented on the Internet by government, academic and commercial web sites. Following are some general biotech web sites as well as some addressing specific biotechnology issues. For general information and many linked resources try the Council for Biotechnology Information http://www.whybiotech.com, the USDA and University of Maryland AGNIC Partnership on Agricultural Biotechnology http://agnic.umd.edu or Bio-Link http://www.bio-link.org a U.S. National Science Foundation Education Center which has biotechnology education links as well as job listings. For Ontario information try the AGCare Biotechnology Centre at http://www.agcare.org. Industry Canada’s Biotechnology Gateway lists government programs and strategies for Biotechnology and Bio-Industry in Canada http://strategis.ic.gc.ca/SSG/bio1376e.html. Hands on information is available at http://www.biowww.net a directory of lab bench work trouble shooting resources for bio researchers. Biotechnology and other scientific products are available from http://www.biocompare.com an online consumer guide for scientists which includes product descriptions and reviews, new technologies and links to vendors.

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request form can be created and library staff will locate the source library. If you have questions or need assistance with the new forms library staff will be happy to help you.

Summer Ejournal Additions

The library home page http://www.lib.uoguelph.ca has a section called What's New which includes a list of new electronic journals. Some of the titles are new subscriptions and others reflect the change of a title previously available in paper format to an electronic version. Over 25 agriculture and food electronic journals were added to the collection this summer. Sample titles include Economic Botany, Journal of Sustainable Agriculture, International Journal of Pest Management, Farm Industry News and Agricultural Research. The new ejournal list is updated monthly.

Who Stole the Stradivarius?

A famous violinist was in town for a concert. While he was away from his room for a short time his favourite violin, a Stradivarius, was stolen. The inspector took immediate action and, through diligent research, was able to identify four suspects. Each of them makes one statement as follows. The guilty one’s statement is false; the other statements are true.

A. I was not in town at the time of the theft.
B. C is the culprit.
C. B’s statement is false.
D. C’s statement is true.
The fall semester of 2003 is quickly drawing to a close. As usual it has been a very busy semester for our Department. We have completed the interviews for our Canada Research Chair position and are awaiting confirmation of the nomination of our candidate by our vice president. We have short listed four candidates for our two positions in turf management. Interviews for these two positions will be conducted in early December and early January. I am looking forward to getting these positions filled as we move strategically to complement our scientific strength and teaching responsibilities. This fall we welcomed thirty two new students into our new Diploma program in Turf Management. I want to acknowledge the leadership of the Diploma Director Rob Witherspoon and the team of faculty and sessional instructors who have so capably enabled this program to be launched so successfully.

Once again the United Way Campaign was very successful. Our Department achieved its goal and more! Our goal was set at $10,200, to date we have raised $11,781. Thank you to all members of our Department who participated and contributed to our United Way Campaign. The services provided through the United Way will touch all of our communities. A "huge" thank you to our team of volunteers which included Lewis Lukens, Deb Hilborn, Jean Wolting, Judy Kelly, Mary Jane Ash and Mary Ruth Mac Donald. Individual gifts for the draws were donated by Jen Kingswell, Angela Hill, Liz Lee, Deb Hilborn, Vanessa Currie and the Department.

Science & Engineering Night was held on Wednesday, November 12th. Our thanks to Deb Hilborn, Robin Little, Melissa Wheeler, Cheryl Corbett and Dr. Francois Tardif who staffed the Department of Plant Agriculture booth for the evening.

I would like to thank Dr. Danny Lee Rinker and everyone involved with the Graduate Student Seminar Day which was held on November 28th. This is a great opportunity for us to support and challenge our new graduate students as they present their research proposals. It provides a unique look at the breadth and depth of the research that is conducted within our Department.

There are several Departmental activities scheduled for the month of December. The Departmental Christmas Party is scheduled for Thursday, December 11th at the Cutten Club. We are very fortunate as a Department to have the opportunity to celebrate this holiday season in such a wonderful way. Barry Micallef and his Variety Cub members have planned a wonderful evening of Christmas activities. The tickets will be on sale throughout the Department. In addition, Christmas lunches will be held at Vineland and Simcoe on December 12th and here in Guelph on December 18th at Gryph's. I hope as many of you as possible will participate in these opportunities to celebrate with your friends and colleagues.

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CONGRATULATIONS
GRADUATE STUDENT AWARDS
OAC RECEPTION
OCTOBER 3, 2003

Shawn Clark - Manton Memorial Award
Renée Cloutier - Ball Scholarship
Jane Coventry - Ronald C. Moyer Scholarship
Marc de Wit - Bullick Scholarship in Food Grain Research & MBAC 50th Anniversary Cereals Award
Rosa di Leo - Hoskins Scholarship & Soden Memorial Scholarship
Jamie Doran - Jack Atkin Graduate Scholarship in Horticultural Science
Rebecca Harbut - H.L. Hutt Memorial Scholarship
Dan MacLean - Ball Scholarship & Arthur Richmond Memorial Scholarship
Jason McCallum - Marian Brennan
Andrew Montague - Major General La Fleche Memorial Scholarship
Harmander Pal Singh - Keith R. Collver Scholarship
Karine Paré - Monsanto Turfgrass Research Scholarship
Amal Roy - Pride Seeds Scholarship
Danny Singh - Pioneer Hi-Bred Plant Breeding Scholarship & Mary Edmunds Williams Scholarship
Stacey Smith - Ball Farm Services Ltd. Scholarship & Agrico Canada Ltd. Scholarship
Sean Westerveld - Hoskins Scholarship
Melissa Wheeler - John Bandeen Memorial Scholarship
Shawn Winter - Soden Memorial Scholarship & Soybean Research Scholarship
Jian Zhang - Kasha Scientific Travel Fund

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External to the University:
Ian Affleck - Dr. Patricia Hamey Graduate Scholarship
Karine Paré - Canadian Golf Foundation Turfgrass/ Agronomy Scholarship
Stacey Smith

Stacey Smith, an MSc student in Dr. Douglas Powell's Food Safety Network, received the Ball Farm Services Ltd. and Agrico Canada Ltd. Scholarship at the OAC Fall Awards Reception on October 3rd. The award is granted to a student conducting research on sustainable crop production systems. During the reception, Stacey had the pleasure of meeting with Liz Ball and Bonnie Ball to thank their family and business for the generous scholarship. Stacey's research interests are in the area of food safety, particularly how fruit and vegetable growers in Ontario manage risks relating to food safety and agri-environmental concerns. The Food Safety Network recognized that regulations associated with the Nutrient Management Act and agricultural nutrient management in general may pose challenges to growers in terms of training and documentation. In understanding how growers receive information and training on current farm practices and risk management programs, suggestions can be made for what growers need to effectively comply with the nutrient management regulations. Stacey also helps deliver the On-Farm Food Safety program to Ontario Greenhouse Vegetable Growers and has spent much of the summer and fall travelling across Ontario speaking with growers about food safety and the steps that can be taken to reduce the risk of contaminating product at the farm level.

Shawn Winter

My agricultural roots are deep within southwestern Ontario as I am the 7th generation on our family farm. Our farm is located just north of Ridgetown and produces corn, wheat and SOYBEANS. My interest in agriculture brought me to Guelph where I obtained a BSc(Agr) in 2002. As an AGGIE, I was and continue to actively participate in extra-curricular activities within the Department, College and University. Outside of university, I can be found taking long walks (across SOYBEAN fields), square dancing, milking cows or enjoying moonlit tractor rides.

My interest in plant breeding stems from a course I took as an undergrad (Prof. = SOYBEAN Breeder). The following two summers I worked in corn and SOYBEAN breeding programs and enjoyed every minute. During my last semester of undergraduate studies, I came to the conclusion that I was not ready for the real world (job, taxes, etc.) so I considered the option of pursuing graduate work in SOYBEANS. I am currently in my 4th semester of the MSc program studying SOYBEAN breeding and more specifically, SCN resistance within an inter-specific SOYBEAN population. My advisors are Dr. Barry Shelp and Dr. Istvan Rajcan and they are also very interested in SOYBEANS. Upon completing my graduate studies, I would like to share my enthusiasm in breeding by actively contributing to field crop development (maybe even SOYBEANS).

I was very fortunate to have received the SOYBEAN Research Scholarship and the Soden Memorial Scholarship at the OAC Awards Reception. I would like to thank the Department and the College for their encouragement and continued support. My thanks also go out to those involved with the domestication of SOYBEANS!
Various people call me The Onion Man, Dr. Coffee or Lord Nightfire, but my parents officially named me James Doran thirty-two years ago when I was born in the honeymoon capital of the world, Niagara Falls. I am the son of four very cool parents (2 Simpsons, 2 Dorans) and brother to four siblings, all living in the Lindsay/Peterborough area. For the past three years or so I have made Guelph my home and the physiology of Alliums my scientific preoccupation.

My interest in plants started at Trent University where I completed an honour’s project examining the phytochemistry of coumarins found on the leaves of wild yarrow. But before I could continue my interests in plant secondary chemistry, I had to finish a bachelor’s degree in education and teach high school for a few years. A previous Visual Arts diploma from Sheridan College and years of working as a land surveyor, qualified me to teach Design Technology in addition to the senior sciences. Eventually I made the decision to return to school and pursue a graduate degree.

Now officially retired from teaching, I’m in my final year of a doctoral program working with Dr. Mary Ruth McDonald and Dr. Bernie Grodzinski - funded by a CRESTech cooperative research award. Very simply, I am studying the nature of pungency development in leeks as it relates to environmental stressors. I never thought I’d say this, but I love the Alliums. If you ever want someone to talk your ear off about onion chemistry, look me up.

Besides my love for the alliums, I devote a great deal of time working on various artistic projects, often as important to me as my research. I suppose a love for music, art, math, science, and literature makes me a bit of a Renaissance man or at the very least a devoted dilettante. Nonetheless, I toil away.

I have been fortunate to receive a number of OAC awards, poster prizes and scholarships during my time here at the University of Guelph. I want to express my deepest appreciation for these acknowledgements. As scientists, we may have an innate drive for the pursuit of knowledge, but often it is recognition that keeps us going.

On most days I’m the smiling convivial type who loves conversation. So, feel free to stop me in the halls or invite me out for beer—especially if you’re buying.
Where might you find Jeremy Friedberg and Jason Deveau these days? Well they are alive and well and located in 273 E Johnston Hall. Rumour has it that they have incorporated a business called Vive Technologies. What does Vive Technologies do? Well go to http://www.vivetechnologies.com and see.
It was October 28th, the eve of the annual Plant Agriculture Poster Day. The event planning committee was summoned to an emergency meeting. To a bystander, the objective of the meeting seemed simple, to determine the number of pizzas required for the event. The committee was well aware of the consequences of a miscalculation, thus, with no small degree of hesitation, they gathered in a room. All were nervous in anticipation of the daunting task that lay before them. It quickly became obvious that a simple, haphazard guess would not be adequate. It was decided that an equation was needed. There were many variables to take into consideration. Accurately determining the ratio of faculty to student/staff in attendance would be of utmost importance. It is well known that faculty consider pizza a staple, thus ample quantities would need to be present to satisfy their needs. Unfortunately for the members, the pamphlets they distributed throughout the Department of Plant Agriculture also included a sacred word in association with the word "pizza" that no mortal faculty member could resist... "free." The pressure was on. In the end, after discussing and assigning variables, the following equation was derived:

\[ P = \frac{2}{3}F + \frac{1}{12}SS \]

Where \( P \) is the number of pizzas, \( F \) is the number of faculty expected to attend, and \( SS \) is the number of staff and students expected to attend. As you can see, the poster day committee allocated \( \frac{2}{3} \) of a pizza per faculty member, while the well nourished students and staff only required one slice each. Equipped with the predictive power of this equation, the committee estimated 15 faculty and 60 students/staff to attend the function. Solving for \( P \), this gives 15 pizzas. This seemed like a reasonable amount to the committee members. With any luck, only 12 faculty would attend, then there would be at least 2 pizzas left for them to take home. Although the members were quite confident in their model, they decided to err on the side of caution, and ordered 15 Large, instead of Medium pizzas. This would definitely cover a few dozen extra staff or students. After hours of number crunching, the members felt satisfied with their systematic approach to a complicated problem. As the coats were being donned, farewells and pats of backs were being exchanged, one member said the unthinkable. The ramifications were obvious. The equation failed to take into consideration the worse case scenario. What would happen if 20 faculty attended?? There was no contingency plan. Panic stricken, coats were removed and pacing in the room ensued. “We’ll just have to order 20 pizzas” was the conclusion. None of the members would sleep easy this night.

Continued on page 7...
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The morning arrived. Final preparations were made. The Bovey greenhouse and potting room were swept. Tables were wiped clean. Posters were hung, 29 in total. All was in order by the time the first of the faculty members arrived. The 20 Large pizzas were placed on a table in the greenhouse, and sorted by topping. The committee was in awe at the sight of such a feast.

They began to second guess their decision to order such an absurd amount of food. Not even faculty could consume this much pizza! However, as though to spite the committee, it only took moments for faculty to ravish the selections. They circled the table like vultures, then swooped in with eagle like precision. The dumbstruck committee stood in unison, jaws dropped. The students and staff, who had been up to this point standing in the poster area, discussing and exchanging ideas, were shocked to discover the empty boxes strewn across the table and floor. Scrambling for a response to their sincere inquiries about lunch, the committee placed an emergency phone call to the pizza parlour. "Please, we need 10 more Large Pizzas now!"

With the call placed, students and staff alike waited patiently. Discussions in the poster area resumed between faculty, staff, current graduate students, and prospective undergraduate students. What felt like an eternity, the 10 additional pizzas arrived. With this news, the students and staff moved towards the table in single file in a calm and courteous manner. In the end, the poster day was a resounding success, and everyone left with at least a bit of grease on their finger tips. However, it was concluded that the aforementioned equation needs to be modified to the following for next years event:

\[ P = 2F + \frac{1}{6} SS \]

Special thanks to Ron Dutton, Rodger Tschanz and Joanna Gils for setting up the poster wires and cleaning the potting area, and photographer Joe Omielan. Committee members were Lewis Lukens, Rosa Di Leo and Dan MacLean. Poster Day was co-sponsored by the Department of Plant Agriculture and the Plant Agriculture Variety Club.

Dan MacLean, Ph.D. candidate
Postharvest Physiology
Department of Plant Agriculture
Canada has been producing commercial mushrooms (Agaricus bisporus) since 1912. In 2002, the Canadian industry produced 76,000 tonnes at a farm gate value of $258 million with Ontario supplying 59% at farm gate value of $150 million. Mushroom research is conducted at the Vineland campus of the Department of Plant Agriculture, University of Guelph (formerly the Horticultural Research Institute of Ontario-HRIO) which was established in 1906.

Canada’s First Publicly Funded Mushroom Facility
In 1970, the Ontario Ministry of Agriculture and Food committed resources to research and extension for the commercial mushroom industry. Under the leadership of Arthur Loughton, the mushroom research program began with the design and construction of the first publicly funded mushroom research facility in Canada. The first facility, constructed inside an existing building of the HRIO, Vineland Station, Ontario, consisted of a miniature tray farm with four production rooms and a Phase II room. The first mushroom crops were produced in 1972.

In 1975, Loughton became the director of the Horticultural Experiment Station - Simcoe. Frank Ingratta assumed the research responsibilities for the next eight years until he became the Chief Scientist for the Production and Breeding Unit at the HRIO.

Extension responsibilities to the commercial mushroom industry were served by David Pallett (1970-71), David Sangster (1972-75), Theo Blom (1976-78) and Wayne Brown (1979-84).

Until 1984 the responsibilities of both the researchers and extension personnel were split between mushrooms and other crops. When Frank Ingratta vacated the mushroom research position, both mushroom research and extension responsibilities were consolidated into one position, filled by Danny Lee Rinker. In addition, the research program was able to expand the technical support staff to a full-time position which is filled by Glen Alm.

The Present Mushroom Research Facility
In April 1992, research in the 1972 mushroom unit was terminated and the construction of a new unit began in November 1992, funded by Jobs Ontario. Upon testing of the facility for its intended use in April 1993, the materials installed for the growing chambers did not meet the temperature tolerance specifications. After about three years, the legal and material issues were resolved. The facility was ready for research in February 1996.

The overall dimension of the new two storey research building is 12 by 25 meters. Placed inside the building are six small production rooms, each 3 by 4 meters, that each hold 10 square metres of compost in 36 tubs, and two small pasteurization tunnels that can each hold 3 tonnes of compost. Each production room and tunnel is

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controlled by computer. The computer system permits management of temperature, relative humidity, air volume, carbon dioxide, oxygen or other gases. All air is high efficiency filtered. Compost handling and spawning is highly mechanized utilizing small-scale tunnel filler/puller and tray line equipment.

A separate building, 8 by 8 meters, enables small-scale experimental compost to be prepared. Small 1 m² x 2 m bunker-like insulated chambers are also used to prepare Phase 1 compost.

The mushroom program is directed by Danny Lee Rinker with Glen Alm providing the technical expertise. Rinker received his PhD from the Pennsylvania State University in entomology and has been with the program since 1984. Alm received his MSc from the University of Toronto in plant pathology and has been with the program since 1985. Farm staff, especially Rocco Guarnaccia, provide the necessary operational assistance. In addition, the program is fortunate to be able to utilize the personnel resources, equipment and mechanical expertise on the Vineland campus.

Research Efforts
Mushroom research concentrates principally on short term objectives of 6 to 18 months that will quickly benefit growers. Research can logically be divided into three periods: 1972-1984, 1985-1992 and 1993 to present.

Research from 1972 - 1984 focussed on the casing layer, presence of mercury in mushrooms, the role that microorganisms and volatiles have in the formation of the mushroom fruit body, the influence of saprophytic nematodes on mushroom production, control of mushroom infesting insects, integrated pest management and substrates and supplements for specialty mushrooms.

The consolidation of the research and extension programs in 1984 until the old mushroom unit was shut down in 1992, realized research efforts in hydrogels for compost and casing, waste materials for compost preparation, supplements, evaluation of pesticides for registration, biological control for mushroom flies, selective medium for Verticillium-disease and alternative materials and techniques for the production of oyster and shiitake mushrooms.

The availability of a new research facility in 1996 and the partnership with the University of Guelph in 1997 has seen the research and extension program concentrate on green mold disease, bacterial blotch, compost materials, compost odours, post-harvest quality and pesticide registration. Rinker is also an adjunct professor in the Biological Sciences Department at Brock University. Thus, the mushroom program has benefited from the efforts of fourth year undergraduate honours students (Brock University: Doug Dean, Vince Waite, Jacinta Dano, Hussain Mithani, Laura Dayboll), post-graduate students (Brock University: Christine Dobbin, Oliver Krupke, Durga Sivanesan; University of Guelph: Christian Punshon Mok, Ramiro Gonzalez-Mature, Jianhui Yang), and visiting scholars (Fritz Elango, Escuela Agricola Region Tropical Huminidad, Costa Rica; DeFang Cui, Shanxi Agricultural University, China; Jae-Kyung Yang, Gyeongsang National University, Chinju, South Korea).

Danny’s office is located at the Department of Plant Agriculture’s Vineland Campus. He can be reached by telephone at 905-562-4141 ext. 132 and his e-mail address is drinker@uoguelph.ca
Is your OS at the end of its life-cycle?

By Jim Hoare

Just as you get to know how to use your computer's operating system (OS), you find out Microsoft has already planned for its obsolescence, or End of Life (EOL). There seems to be a vicious circle of new computer hardware, which results in new computer software, which requires more computer hardware...

In the next year (2004), Windows 98/98se are planned to become obsolete in Microsoft's terms! What does that mean? Try to get updates or support from Microsoft and it won't be there. Try running a newer application on that old OS and it probably won't work. Try upgrading your hardware (i.e. a replacement hard drive) and it won't work for lack of appropriate "drivers."

The following is from Microsoft's web site outlining their "life-cycle policy" for Windows: http://www.microsoft.com/windows/lifecycle/default.mspx

"Under the previously published Microsoft® Windows® Desktop Product Life-Cycle Guidelines (published in February 2001), Microsoft planned to make Windows desktop operating system licenses available for purchase for a minimum of three years and assisted support offerings available for four years after general availability. During these periods, Windows desktop product availability and assisted support would move through the Product Life-Cycle Phases identified in Figure 1 below."

![Figure 1. Life Cycle of various versions of Windows.](image-url)
“In addition to extending the length of the Windows Desktop Product Life-Cycle phases (Mainstream and Extended) online self-help support information (including Windows Update) will be available for a minimum of eight years from the date of a product’s general availability. During the last year of online self-help support Windows Update will not support auto-updating and will not be updated with new fixes. Further clarification has also been made to policies for service packs and extended and security ‘hot fixes.’

Applying these guidelines to currently available Windows desktop operating systems, Table 1 lists the operating system products and their Introduction, Extended Phase, Non-Supported Phase or to End of Life (EOL) dates.”

So, after reviewing your current machine and the Windows 98/98se dates, you need to upgrade your OS to Windows XP pro! Will your current hardware be adequate? The following specifications are from Microsoft’s site: http://www.microsoft.com/windowsxp/home/howtobuy/upgrading/sysreqs.asp:

Here’s what you need (minimally) to use Windows XP:
- 300 megahertz (MHz) or higher processor clock speed
- 128 megabytes (MB) of RAM or higher
- 1.5 gigabyte (GB) of available hard disk space.

Stay tuned for further Departmental policy changes to the minimum specs of systems that will be eligible for IT support. Over the next few months, Mike and I will be reviewing the Department’s computer inventory and identifying machines that need replacing.
Plant Agriculture Wins BIG at ASHS 2003
By Dr. Al Sullivan

The 100th Anniversary of the Annual American Society for Horticultural Science (ASHS) Conference was held in Providence, Rhode Island October 3-6, 2003. The Department was well represented by faculty and graduate students who made the long trek to the site of the first ASHS conference in 1903.

Our students did very well in the poster competition: Dan MacLean, a PhD candidate with Dr. Dennis Murr, won first place for his poster ‘Postharvest Variation in Apple Flavonoid Levels’; and Cathy Bakker, a MSc student with Dr. Al McKeown, won second place for her poster ‘Influence of Nitrogen Fertilization on Broccoli Yield, Disorders, Disease, and Ascorbic Acid Content.’ Congratulations to both of our winners.

At the meeting of the American Pomological Society, Rebecca Harbut and Al Sullivan, won first prize for a review paper titled ‘Breeding Potential of the Lower Ploidy Fragaria Species.’

AND, the University of Guelph Horticulture Club won first place in the Small Clubs category within the Collegiate Branch of ASHS. We have a very active Hort Club that continues to provide valuable support to the Canadian Greenhouse Conference and produces an award winning display for College Royal. Congratulations to all of the members.

Jamie Doran won the best poster award for ‘Taming the Alliums: Flavour Science Meets the Space Age’ at the 7th Innovation Conference of CRESTech that was held in Toronto this past October. Jamie is also the recipient of a CRESTech Graduate Fellowship for 2003-4. CONGRATULATIONS!

Dr. Ken Kasha has received the distinction of being nominated as ‘Foreign Correspondent’ of the French Academy of Agriculture.

Dr. Praveen Saxena received an NSERC-Agriculture Canada grant for three years and completed a book, ‘The Journey from Single Cell to Whole Plant.’

Dr. Peter Pauls is the University of Guelph’s NSERC representative for a two year period.
A successful University of Guelph soybean variety celebrated 10 outstanding years in the field this past October. The event brought government and industry representatives together with the Department of Plant Agriculture to recognize the OAC Bayfield soybean. Held at the Arboretum Centre, the event attracted 65 guests including Dr. Wally Beversdorf who, along with retired University of Guelph professor Jack Tanner, was responsible for the bean’s development in 1985 and is now Vice-President of Syngenta Plant Science in Switzerland.

From left to right: U of G technician Cal Klager, U of G Associate Professor and soybean breeder Istvan Rajcan, former U of G Professor and chair of the Department of Crop Science (now VP of Syngenta Plant Sciences) Wally Beversdorf, former U of G technician Quinton Van DeVrie, and Gary Ablett, director of Ridgetown College.

Dr. Calvin Chong received The Composting Council of Canada award at the 13th Annual National Composting Conference and Trade Show & Environmental Management Resource Centre for Business 1st Environmental Exhibition & Conference held September 2003 in London, Ontario. This award is in acknowledgement for all his “efforts to establish composting across Canada and helping to make their industry and gardens grow.”

Presented two talks, one dealing with the utilization of wastes and composts as potting amendments and the other about non-chemical weed control strategies in container culture, at the CANWEST Hort Show in Vancouver, British Columbia on September 18, 2003.

Professor Bernard Grodzinski was appointed Chair of the Graduate Awards Committee for the Ontario Agricultural College (OAC) in August 2003. Dr. Grodzinski has also been appointed the Chair of the College’s Undergraduate Awards Committee and now serves as the OAC representative on the Senate Committee on Awards.

In addition to serving as a Professor in the Department of Plant Agriculture, Dr. Grodzinski was recently appointed an Adjunct Professor of Environmental Biology.

Dr. Rina Kamenetsky (Department of Ornamental Horticulture, ARO, The Volcani Center, Israel) began a one year sabbatical leave at the Department of Plant Agriculture in September 2003. She will be working with Dr. B. Grodzinski and Flowers Canada (Ontario) on the introduction and evaluation of new ornamental crops, and with Dr. Mary Ruth MacDonald on garlic biology.

On Wednesday, December 3rd, Dr. Kamenetsky will give a seminar entitled “Flowering physiology and fertility restoration in garlic” (Department of Plant Agriculture).

On March 2nd, 2004, Dr. Kamenetsky will present a seminar “Somatic evolution and florogenesis in the genus Allium” (Department of Botany).

More info concerning Dr. Kamenetsky’s research can be found at: http://www.agri.gov.il/ Horticulture/Ornamental/ RinaKamenetsky.html

Rina is located in the Bovey Building room 3120, Department of Plant Agriculture, University of Guelph. Her telephone number is 519-824-4120, ext. 52510 (office), and e-mail is rkamenet@uoguelph.ca

SCIENCE & ENGINEERING NIGHT 2003
Wednesday, November 12
Department of Plant Agriculture Team

From left to right: Deb Hilborn, Robin Little, Melissa Wheeler, Cheryl Corbett, Dr. Francois Tardif.
On September 30th, 2003 Grade 2 students visited the Department’s Vineland Campus to tour the fruit orchards and greenhouse facility with Dr. Jay Subramanian. Our visitors were very excited that they were allowed to pick apples, pears and plums directly from the tree to taste and take back to class with them. It was a fun morning for everyone! We hope to see some of them back at Guelph in about 10 or so years.
Food Safety Network High School Workshop Program

The Food Safety Network has collaborated with Jeff Wilson, a commercial vegetable farmer in Hillsburgh, ON, over the past 3 years to offer a workshop program (Sowing the Seeds of Safe Food) for high school students from across the province. Together, they offer a hands-on workshop at the model farm that combines science and technology with agriculture. This illustrates the concepts of how science and technology are applied to agriculture within the farm to fork concept.

By the end of the workshop, visitors understand that food production isn’t just about planting seeds in the ground and watching them grow. It’s a much wider farm to fork concept including laboratory and regulatory work that goes on even before a farmer can plant those seeds followed by the processors and grocers who bring those crops to consumers. Using a combination of hands-on activities, farm tours, and taste tests, the Food Safety Network offers students an introduction to the science of biotechnology and genetic engineering plus current issues relating to the production of the food we eat.

The basic program involves a tour of the farm (led by Jeff Wilson) to illustrate the complexities surrounding food production including issues such as pest control, IPM, consumer demands, and food safety considerations. Students are then given a presentation on the science behind genetic engineering along with the social issues surrounding its use in agriculture. The presentation is given by Liz Gomes, a masters student with Doug Powell.

In the first year, a total of 425 students participated in the program. This fall a total of 1,526 students, mostly Gr. 11 and 12 Biology and Family Studies, have visited the farm. Another session of tours will run next spring.

More information on the Food Safety Network can be found at: http://www.foodsafetynetwork.ca/

UNITED WAY CAMPAIGN

THANK YOU to everyone in the Department for helping us achieve our goal of $10,200 and more! To date we have raised $11,781. This would not have been possible without the efforts of our team of volunteers which included Lewis Lukens, Deb Hilborn, Jean Wolting, Judy Kelly, Mary Jane Ash and Mary Ruth MacDonald. Individual gifts for the draws were donated by Jen Kingswell, Angela Hill, Liz Lee, Vanessa Currie, Deb Hilborn, and the Department.
Department of Plant Agriculture
Christmas Party

Thursday, December 11, 2003
Cutten Club in Guelph
Cocktails 6 pm; Dinner 7 pm

DELUXE Christmas Buffet Menu
Awards Ceremony
(Outstanding Staff Member and Swanton Folly Award)
Dancing
Door Prizes

Tickets now available in the office of your building or from any Variety Club Committee member.
Grad students: $15/$18  Staff: $20/$24  Faculty: $25/$30
(With Variety Club Membership/Without Variety Club Membership)
HAPPEINGS

COMING EVENTS

**Poinsettia Cultivar Evaluation Trial**

On December 5th, the Vineland Floriculture production team of Wayne Brown, OMAF, Theo Blom, Dave Kerec and Cathy Gray will be hosting a Poinsettia Open House for commercial growers. The trial has over 100 different cultivars provided by five different breeders...we have 40 different red cultivars with some flowering early and some late! We have all the different shades of pink, salmon marble and white...the designer colours for festive decorating.

Why do we do all this? Poinsettia is a major floriculture crop grown by a large percentage of growers and the only one consumers purchase for Christmas. Cultivars are being evaluated on different growth habit, flower response time, cyathia development (true flower), stem breakage and shelf life under typical Ontario growing conditions. We are all getting excited because soon we will have a sea of colour in the greenhouses to brighten the dark, dreary days of early winter.

**NOTE:** If you visiting the Vineland campus before Christmas, stop by the greenhouse and see the array of colours.

**Landscape Ontario Congress 2004** - January 13 to 15, 2004, will be held at the Toronto Congress Centre, Toronto, ON. For more information go to: http://www.locongress.com/

**Guelph Organic Conference and Trade Show** - January 22 to 25, 2004, University of Guelph. For more information: http://www.guelphorganicconf.ca/

**Horticultural Jobs Fair** - Wednesday, January 28, 2004 in the Court Yard of the University Centre, University of Guelph from 10 a.m. to 4 p.m. For further information contact Rodger Tschanz at 519-824-4120 ext. 58912 or 56423.

**Canadian International Farm Equipment Show** - February 3 to 6, 2004 at the International Centre, Toronto. For more information go to: http://www.torontofarmshow.com

**Ontario Fruit & Vegetable Convention and Trade Show** - February 18 and 19, 2004 at Brock University, St. Catharines, call (905) 563-6901 for information.

**Canada Blooms** - March 3 to 7, 2004, will be held at the Metro Toronto Convention Centre, South Building, Toronto, ON. For more information go to: http://www.canadablooms.com/

**4th International Crop Science Congress (4ICSC)** - September 26 to October 1, 2004, will be held at the Brisbane Convention & Exhibition Centre, Queensland, Australia. For more information go to: http://www.cropscience2004.com
The Library and WebCT

The use of WebCT is increasing rapidly at Guelph. According to Teaching Support Services, this semester 325 courses are reaching over 15,000 students that are using it in some form. The most popular application is for posting and manipulating grades but many instructors are creating full interactive sites.

The Guelph librarians are happy to assist with building WebCT subject content and Information Literacy tutorials focused on specific course topics. As an example, the Biology 1030 course has an online library tutorial component with a quiz at http://www.lib.uoguelph.ca/LibEd/BiologyTutorial/index.html. All students taking this course are required to independently complete one library assignment that works through the tutorial. Examples used relate to Biology but teach important general research concepts such as journal index searching, Boolean logic, choosing research topics and keywords, identifying peer-reviewed journals, etc. The tutorial is based on modules and is always available on the course WebCT if students need to refresh their understanding of a particular information resource or application.

The library has recently posted a generic, modular, online library tutorial on its web page http://www.lib.uoguelph.ca/tutorials/index.html. This tutorial can be used as is or tailored to individual courses with subject specific examples and subject guide or course links http://www.lib.uoguelph.ca/pathfinders/index.html. The familiar paper subject guide handouts are being digitized, making them accessible online and easy to update. New subject guides can be created upon request.

Creating information guides, encouraging optimum use of library resources, and promoting Information Literacy are all part of the library service mandate. Please don’t hesitate to contact me if I can provide assistance in any of these areas.

Other Library News

The Library Learning Commons http://www.learningcommons.uoguelph.ca/, described in a previous issue of this newsletter, has tied for 3rd place as the "Educational Web site of the Year," named by the North American Web Developer's Association. Please take a moment to visit this site to review their services. The staff can address many problems common to students of all levels. From time management and study skills counseling to providing conversation partners for international students, the Learning Commons has a lot to offer.

The Data Resource Centre http://www.lib.uoguelph.ca/gov-pubs/index.htm, located on the lower floor of the library, recently participated in the fifth annual GIS Day. Held at the UC in November, displays highlighting the use of GIS at Guelph were featured. I hope you had a chance to see the demonstrations and posters. Library staff are available by appointment to assist with GIS programs, manipulation of large data sets, and staff can also demonstrate and instruct classes with a need for this information.
WEB SIGHTS

by Judy Wanner

The Chemistry Biology Information Center in Zurich has a very comprehensive list of useful links. With topics ranging from Astrobiology through Supramolecular Chemistry you are sure to find something of interest. Take a look at what they have to offer at http://www.infochembio.ethz.ch/links/en/index.html

There are three organic agriculture events coming up this winter. Eco-Farming ’03 in Indianapolis, Indiana, Dec 8-13, 2003, our own Guelph Organic Conference, Jan 22-25, 2004, and the World Organic Trade Fair, BioFach 2004, Feb 19-22 in Nuremberg, Germany. The web sites for these events are:
http://www.acresusa.com/events/events.htm
http://www.guelphorganicconf.ca/index.html
http://www.biofach.de/mainPage.html

A good web site for global organic information is that of IFOAM – International Federation of Organic Agriculture Movements, http://www.ifoam.org

Message from the Chair continued from page 1...

In the new year, we will be welcoming new graduate students to the Department. They include Ali Taheri, PhD (J. Subramanian & J. Cline), Muhammad Alam Rehan, MSc (L. Lee), Krishnaraj Singh Tiwari, MSc (G. Paliyath), and Adam Foster MSc (M.R. McDonald).

On October 17 we said goodbye to Dr. Tom Michaels and Dr. Julie Dionne who have gone on to new career challenges. We also said goodbye to Mrs. Fran Thomas, Secretary to the Chair, who retired after 22 years of service with the University. Fran, on behalf of the Department I want to thank you for your help and support in building this Department. I would like the Department to know that the new Secretary to the Chair, Ms. Beth Livingstone, has stepped into the position without missing a beat. Beth is doing a wonderful job of keeping me on track. Thank you Beth.

So as this semester draws to a close, on behalf of my family, Josée, Ana, Stephanie and Lesley-Anne, I want to thank you for your support this past year and to wish all of you a very merry and safe holiday season. Merry Christmas everyone!

Who Stole the Stradivarius?

Answer from the September issue Logic Puzzle:
B is the thief
This special addition to December’s Newsletter prepared by Dr. Cot:

with the valuable contribution of Mrs. Deb Hilborn:
**THE FRUIT THAT IS MUCH MORE THAN SIMPLY FOOD**

by Dr. Roumen Conev  
Department of Plant Agriculture - Vineland

**Origin:** The exact origin of apricot is still uncertain, but the facts that: a) it was first mentioned in writing in China over 4000 years BC; b) its cultivation was first described by the Chinese emperor Yu in 2198 BC; and c) natural forests of apricots still exist in northern and south-western parts of China have given enough reason to the scientific community to consider this country as the primary center of origin of apricot. However, during the last century enough archaeological proof was provided that apricot has been known in Armenia since at least 6000 BC which is evidence for either the existence of a second independent center of origin as old as the Chinese one, or even that Armenia can be considered as the primary place of origin of apricot. Natural habitats of this culture are reported in Caucasus (Dagestan and West Armenia), all over Central Asia (Afghanistan, Iran, Tajikistan, Northern Pakistan, Kyrgyzstan, Uzbekistan, Kazakhstan) to Hindu Kush, Tian Shan and Eastern Tibet, as well as in North-eastern China. Usually wild apricot inhabits mountainous regions, 800-1300 m above sea level (up to 3,600 m in Tibet!), residing on dry, rocky slopes, where winter temperatures often reach as low as –27°C but without sharp diurnal or seasonal fluctuations. Apricot naturally forms small groups of trees rather than large blocks.

**Name and history of distribution:** The debut of apricot to Europe was shortly before the beginning of the new era when germplasm from Armenia was introduced to Greece. The investigations on “who did it” suggest two potential smugglers, and the nominees are Alexander the Great and the Arabs who traded very actively all over the (then known) world. The imagination of the ancient Greeks perhaps stuck to the fruits, which they already knew, so the first name given to apricot was…apple – “Armenian apple.” At the beginning of the new era Greeks brought apricot to Rome where this fruit tree had its second “premiere” which paved its success first across Europe, Asia Minor and North Africa, and much later in the Americas, Australia, New Zealand, and South Africa. Because of the early ripening of apricots ancient Romans gave them the name *praecox*. Arabs transformed it to *parcuc*, and added their typical prefix “al” – *al-parcuc*. This word has been modified during the centuries from the Portuguese to *alperce*, from the Spanish to *albaricoque*, from the Italians to *albicocco*; the French got it as *abricot*, then the Russians – as *abricos*, the Germans slightly changed it for their convenience to *aprikose*, and the English to *apricot*. In some regions of Europe and Asia Minor the name of this fruit has nothing to do with “*praecox*”, which may be an indication for secondary introductions, most likely directly from Central Asia. *Kajsi* (Hungarian), *caisă* (Romanian), *kaisiya* (Bulgarian, Serbian, Macedonian), *kajsi* (Albanian), *kaysi* (Turkish), *qeîsi* (Kurdish) all of them most likely come from *kaisa*, which in some Central Asian languages means dried stone-in apricots. Other names like *zarzala* (Bulgarian dialects), *zerdali* (Turkish dialects), *jardel’* (collective name for Siberian hardy apricots), the name of the cultivar Zard, *zardalu*, *sarha*, (Himachal Pradesh); *zardalu* (Hindi); *gurdalu* (Kashmir); *zardalu* (Punjab) all have a common root, perhaps from the Persian *zardalu* (apricot).

**Taxonomy:** The arguments about the primary center of origin and about the priority of its introduction in Europe are not nearly as involved compared to the disputes about apricot taxonomy! It started when both European botany gurus - Carl Linnaeus and Jean-Baptist Lamarck - suggested different approaches for apricot classification. The former put apricots within the already overcrowded *Prunus* genus, but about 20 years later the

*The author continues to collect missing parts of the puzzle about the various roots of the origin of apricots. Many Asian languages use their unique typescripts, which impedes this work. Sharing of any information regarding the local name(s) of common apricot in any language or dialect from any country/region in the world will be greatly appreciated. You can email me: rconev@uoguelph.ca with your closest possible spelling in English, or call me: 905-562-4141 x 141 with the phonetic version of the word. Thank you in advance!*
latter decided that they should be separate genera (*Armeniaca*). Yet later the quarrel was transferred to the “padding” of this sub-genera (or genera?): according to different authors apricot species vary from 5 to ... 12! However, there is no argument about several clearly distinguishable yet close species that are utilized by humans – Common apricot (*P. armeniaca*), Siberian apricot (*P. sibirica*), Manchurian apricot (*P. manchurica*), Japanese apricot (*P. mume*), and Purple apricot (*P. dasycarpa*), which in fact is a natural hybrid between Myrobalan plum and Common apricot.

**Traditional uses:** Apricot has an exceptional place in the diet of some nations. For ancient Tajiks it was the only source of sugar so during the centuries they have developed state-of-the-art selection and created cultivars such as Ameri and Hodjendi, the dried product of which has up to 85% sugar content. One of the most long-living, strong, active and healthy community on earth – the Hunza people, who inhabit the high mountains of Northern Pakistan, have an all year round diet rich in fresh or dried fruit and nuts, especially apricots and apricot kernels. They do not consume animal grease and their primary source of fats is the oil extracted from apricot seeds. Apricot is such an important component of Hunza life that the number of apricot trees owned is considered as a measure of wealth! Medical surveys done in the 1950’ s and 60’s established that 100 % of the population studied, including those 100 and even 120 years of age, had perfect vision. Also, cancer, coronary heart diseases, high blood pressure, high cholesterol, and even appendicitis and gout were unknown conditions.

The Chinese have extensive experience in using apricots as food and a natural remedy as well. Apricot kernels are a popular medicine for all kinds of lung distress and digestion problems. The so-called “Ku Xing Ren” (ku-bitter, xing – apricot, and ren – seed or kernel) stops cough and calms wheezing. The Japanese have their unique way to prepare and use apricots: the popular *ume-boshi* is nothing but the pickled green fruit of Japanese apricots - *Prunus mume*. Apricot pickles are considered as very healthy food recommended for everyday consumption. The Japanese have an ancient saying for *ume-boshi* just equivalent to our “An apple a day...” In 1950 Dr. Kyo Sato revealed the mystery around this emblematic Japanese food - it was found that pickled *mume* fruits have strong antioxidant and antibiotic properties. In 1968 a component was isolated that could treat tuberculosis and was proved to also kill cholera, typhoid and dysentery bacilli. Because at that time penicillin and some other antibiotics were already in wide use, this discovery went largely unnoticed. The popular medicinal application of *ume-boshi* covers an extremely wide spectrum of conditions: from digestion problems, poisonings of every nature (hangover as well!), bad breath, removal of worms, headaches, colds and the flu, to motion sickness, dysentery, liver diseases and stroke.

**Nutritional values:** Apricot kernels contain an average of 21% proteins and 52% oils, and are widely used as a substitute for almonds in food, cosmetic and pharmaceutical industries. Apricot seeds are a source of vitamin B17 and are utilized by alternative medicine for cancer therapy. It has to be underlined, however, that the seeds must be baked prior to direct consumption, since apricot kernels containing amygdaline can be poisonous if ingested raw in large quantities. The fruit itself is a small natural drug store as well. The American Cancer Society states that apricots may lower the risk of cancers of the larynx, esophagus and lungs. Just a handful of apricots contain 100% of the recommended daily allowance (RDA) of Beta-carotene – a powerful antioxidant that our body transforms into Vitamin A. It prevents plaque-deposits from building up in the arteries, helps to strengthen up our immune systems and is beneficial to the eyes, skin, hair, gums and various glands. The cobalt and copper found in apricots, and especially their high iron content, are beneficial in fighting anemia and make this fruit an irreplaceable ingredient for many baby foods. Apricots are also an excellent source of potassium, and it has been clinically tested that fresh and dried fruit, as well as nectars are all a good alternative to chemical diuretics. Apricot and apricot products help to maintain body fluid balance normalizing blood pressure and heart function. Boron, which apricots are also rich in, has lately been identified as one of the main factors for the prevention of osteoporosis by helping post-menopausal women retain their estrogen levels.
The list of the amazing nutritional and medicinal properties of apricot fruits and kernels can go on and on. It is not surprising that dieticians recommend apricots as a component of a healthy diet for people of every age, and that dried apricots being compact, balanced and rich in minerals, macro and microelements were among NASA’s choices as astronauts’ provision.

Apricot today: The world’s total production for the period 1997-2001 is 12,957,895 metric tones, or approximately 2.6 million tonnes per year. The leadership in this industry shifts from the European Mediterranean countries to the Asia Minor and Central Asian countries, whose total production nowadays is about 1.1 million tonnes per annum. Turkey alone produces about 20% of the world’s total and became an undisputable leader. Other big players are Iran with almost 233,000 t/year, Italy – 171,000 t/year, Pakistan – 163,000 t/year, Spain – 148,000 t/year, France – 134,000 t/year, and China – 87,000 t/year (FAO, 2002).

Where is Canada’s place among the apricot producers? The FAO statistics shows that from 63 countries with registered apricot industries Turkey leads with 0.5 million metric tonnes per year, Canada is ranked 53rd and Zimbabwe ends the list with 34 tonnes annually.
Ontario apricot’s future - in supermarkets, in the “red book” or ... in a “black hole”?

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Introduction to the “Deep Space No. 5” - starring: Apricot

I am not an astronomer but it seems there should be a “black hole” somewhere above the Niagara! Want proof? Well, look at the apricot industry statistics, and you’ll see how it shrinks year after year as if been sucked in through a mysterious galactic funnel! Currently, the Ontario apricot acreage is less than 500 ha. Should we give up and simply add apricots to the list of extinct species, or we should initiate CPR procedures for revitalizing the anemic industry?

I know the answer is not easy. Right now the local fruit industry has to cope with enough longstanding issues as well as some new headaches like Plum Pox Virus and the aggressive urbanization of traditional agricultural zones. The currently developed policy for further expansion of clingstone production within and outside of Niagara makes peaches an even more attractive and secure crop than apricots in the growers’ eyes. It is true that the Ontario weather is not among the best in the world, and that apricot is a capricious culture, but I think that the risk associated with growing apricots is exaggerated. The climatic conditions are good enough to promote excellent vegetation, good yields and high fruit quality that in turn should provide a well-deserved profit. Need proof again? The peach is the king of Niagara orchards, right? But let’s see if the climate is the only factor determining this status quo:

a) The high chill apricot cultivars generally withstand lower winter temperatures compared to peach,
b) Spring frosts are indeed a concern, because apricots bloom early, but there is late blooming germplasm available that can be imported and utilized for either direct production or for breeding purposes,
c) Apricot reacts very positively to irrigation, but is one of the most drought-resistant fruit species (second to almond!), a feature that in the era of global climate change will became increasingly important, and
d) Blossom blight - the most economically important fungal disease in apricots, which booms in humid conditions, is completely manageable if controlled properly.

What I am trying to say is that if the peach industry in Ontario can thrive, the apricot industry should be able (with some help) to at least survive.

The eternal question: the egg or the hen?

If the other stone fruits (plums, sweet and sour cherries) enjoy better attention from Ontario farmers, if grape production around is flourishing and the peach industry is expanding, why is apricot such a minor crop? Is the production low, because of the low demand, or is the demand low, because of the scarcity of locally grown apricots on the market and the lack of positive experience that will make consumers buy again and again?

Apricot in the worldwide prospective is and always has been a highly profitable crop constantly on demand. Generally there are no problems to market fresh apricots, which occasionally happens with some other fruits. Also, apricot is the only deciduous plant that is a nut and a fruit tree at the same time. It bears fruit that are 100% usable – sweet kernels are an excellent substitute of almonds; and bitter seeds are source of medicinal and pharmaceutical products. After extraction of the amygdalin they are also usable as high protein food or feed ingredient. Fruit can be marketed fresh, dried or processed to baby foods, juices, nectars, yogurts, jellies, jams, wine, brandy, etc. and even pit shells are utilizable for manufacture of medicinal charcoal for example.
However, there is a relatively low demand for apricots in Ontario at the time being. In fact, it is a little known fruit to most consumers, who never had the chance to sample a real tree ripened apricot. The majority of Ontarians buy fruit from the supermarket chains, where the only apricots available are the imported ones. They have been picked, stored, packed and shipped well before they became offered on the shelves. Because the apricot fruit is quite delicate when fully ripe, it is obvious that the crop should be picked while firm enough in order to withstand the long transportation and storage, and here is the root of the problem: apricots do not have the ability of proper post harvest ripening when picked prematurely. Many cultivars do develop attractive appearance before ripening, but the fruits are almost tasteless and cannot efficiently build up further flavour once harvested.

The fact that the Ontario tender fruit orchards are located literally within an urban conglomerate with over 10 million potential consumers (equal to the population of a mid-sized country in Europe!) provides an unbelievable potential for the domestically produced apricots to successfully race for a share on the market. Because of the well known geographical and climatic limitations Ontario is not able to provide even a fraction of the huge amount of fruit produced by our neighbours, but can focus on the quality instead. Here is the second key to success: apricot ripens early and can develop perfect taste with relatively low accumulation of growing degree hours (GDH). Regarding the market appearance, the bets are again in favour of high chill apricots: they develop a much more attractive colouration compared to the low chill ones. Locally grown, tree-ripened apricots shipped within very limited distances and immediately marketed through the superstore chains would have an undoubted success. As the Californian apricots are available from May to mid July, and the fruit of most local cultivars ripen from the end of July to the first days of September, Ontario apricots could actually be an excellent addition instead of a rival of the American ones. In addition, one of the biggest fruit processing plants in North America – St. Davids’ operation of Kraft Canada and the vibrant local wine industry could provide a second opportunity for those Ontario apricots that are either specially grown for processing, or that do not meet the criteria for fresh marketing. Of course the processing and wine industries would be players in this game only if they can rely on a regular supply of reasonable fruit quantities.

So, the opportunities for growth of a vital apricot industry do exist, but when we take a look at the opposite side of the food chain we find that there is no solid tradition for growing apricots in Ontario. Surprisingly enough Ontario farmers and all other potential players such as the government, processors, wine-makers, tourist industry, not to forget horticulture and food scientists, let their chances disappear like water in sand. I am not sure if there is any family farm that produces a substantial amount of apricots for more than one generation. What I am sure about, however, is that most of the ingredients needed to establish a successful industry are already in place:

1. Locally developed germplasm (which by the way has earned a solid international reputation in the past 3-4 decades) is immediately available for commercial production and is the “yeast” for successful future breeding. The HRIO-Vineland (now University of Guelph) and especially Agriculture & Agri-Food Canada-Harrow cultivars are the backbone of apricot production in most of the “colder” states south of the border, and perform their excellent capabilities in many European countries as well. It is somewhat paradoxical, that the Ontario cultivars are probably least popular and utilized in…Ontario!;

2. Good enough climatic conditions;

3. Favourable economic situation - a steadily rising price over the last 3 years compensating for the irregular yields should attract the growers’ interest; and last but definitely not least,

4. The potential resistance/immunity of some of the Ontario developed apricot cultivars to Plum Pox Virus may became a key point for consideration from many growers especially if the federal government decides to limit or discontinue their further support through PPV compensation packages for Ontario.
A strategy for promotion of Ontario apricots
Thoughts of this nature were the condensation nuclei around which the concept for development and implementation of a strategy promoting the apricot culture in Ontario started crystallizing and building up. Initiation of a campaign for raising the awareness among both the consumers and the growers was considered as first priority. The 2003 July Twilight meeting and orchard tour, featuring cherry and apricot research at the University of Guelph – Vineland with the special participation of Dr. Richard Layne - a retired scientist from the former AAFC-Harrow breeding program and originator of many superior apricot cultivars, gave a boost to the initiative for increasing the sustainability and profitability of apricot production. This meeting targeted primarily the growers’ interest, but the idea for resurrection of the apricot industry attracted media attention and was covered in depth by a number of regional and provincial magazines and newspapers. Ontario Farmer dedicated the whole front page for information, pictures and commentaries on the “apricot topic,” and Niagara Farmer’s Monthly published detailed material as well. There was resonance even from B.C. and Washington State’s specialized magazines that immediately communicated their interest of publishing materials about Ontario apricot cultivars.

Regarding the second target group – the consumers, it was realized that the best tribunes for delivering information of the type “What apricot is” would be the regional and local newspapers, SPARK programme and OMAF newsletters and web publications. Popular materials dedicated to the nutritional and medicinal properties of apricot fruit were prepared and distributed and these seeds grew and gave an encouraging harvest: feedbacks on the feasibility of growing apricots in cooler regions, inquiries for more information on specific germplasm characteristics, or simply letters that express interest on this topic were received not only from Ontario but from places like New Brunswick’s inland and even …Sweden!

Epilog
So, here we are! Can Ontario apricot growers relay on more consistent yields in the future? Will we be able to enjoy more diverse fruit palette by adding the very flavourful apricots there? The next steps in targeting to promote the growth of both apricot production and apricot consumption in Ontario are still to be done, so I really hope that in about 10 years locally grown apricots will be available for more and more Ontarians making them happy and healthy, and the Ontario growers…more wealthy!
1. Apricot has been known to humans…
   a) for more than 6000 years;
   b) since Jean Chrétien’s first mandate as a federal PM;
   c) for over 60,000 years.

2. The English, French, German, Italian, Spanish, and even the Russian and Arabic names of this fruit all originate from the…
   a) Latin word “early”;
   b) Hunza’s word “tasty”;
   c) Maori word meaning “golden ball which ripens in the season of the many full moons when most other fruits are still as bitter as kangaroo milk.”

3. The apricot fruit is an excellent source of…
   a) K, Fe, B, Co, Cu, beta-carotene, vitamin C;
   b) apricotine, apricoflavine and C$_2$H$_5$OH;
   c) stubborn spots on your (or your children’s) T-shirts.

4. The place of origin of the common apricot is…
   a) Timbuktu Island;
   b) The high mountainous region of Hindu Kush – Tien Shan;
   c) North-Western Nunavut.

5. Dried cots being compact, balanced, and rich in minerals, macro and microelements are …
   a) among NASA’s top choices as astronauts’ provision;
   b) an excellent diet component for people of all ages, (well, maybe except for toothless toddlers);
   c) recommended as a substitute for or addition to a treatment with synthetic diuretics.

6. The world’s largest apricot producer (avg. 500,000 t/year!!) is…
   a) Alaska;
   b) Turkey;
   c) Russia.

7. Ontario’s apricot production is …?
   a) 125,000 t/year;
   b) 1,250 t/year;
   c) 125 t/year.
Correct answers

Q 1: … It has obviously been long, but hmmm, how long? a) or b)... that is the question...If not sure pick a) and it will give you your first 5 points. Way to go!

Q 2: … Definitely a) – add another 5 points to your account!

Q 3: … a), but ... c) will also be considered correct. Anyway, you have to decide and pick only one! This will assure another 5 points!

Q 4: … That was easy – b)! You are one step closer to the top with 5 more points

Q 5: … Believe it, or not – all three! Add 5 points for each of them to a total of 15 (sorry) points.

Q 6: … It is not c), it’s b)...tricky, eh?

Q 7: … Well, it is a little embarrassing, but let’s face it - it is c), folks…

How to interpret your score...

Every correct answer adds 5 points to your score. If you answered all the questions right you should have 45 points.

Over 35 points achieved: You are the King (Queen) of CotLand!
15 – 30 points: Well, undoubtedly you are an apricot fan, so try again!
Under 15 points: Are you sure you are an Aggie?