AGRICOLA NEWS

For the Alumni and Friends of the Nova Scotia Agricultural College

Volume 28 Number 2 Summer 2004

The Social Context of Research

The society in which we live defines much of who we are and what we believe.

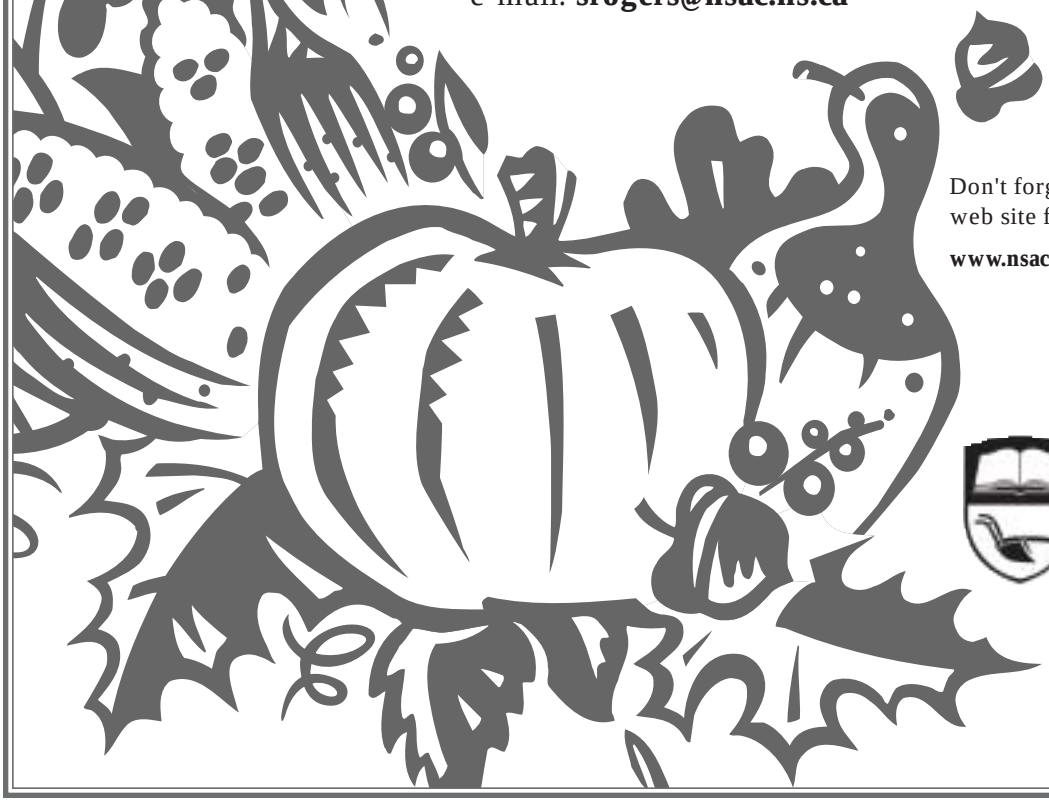
The Nova Scotia Agricultural College Alumni Association welcomes all alumni back to campus for

Homecoming Weekend

October 15th, 16th, 2004

(A special welcome is extended to honour year classes ending in 4 and 9.)

If you are interested in hosting your class reunion, please contact the alumni office by calling: **(902) 893-7247** or e-mail: **srogers@nsac.ns.ca**



Don't forget to check out our web site for all the details:

www.nsac.ns.ca/alumni/homecoming.htm

Nova Scotia Agricultural College

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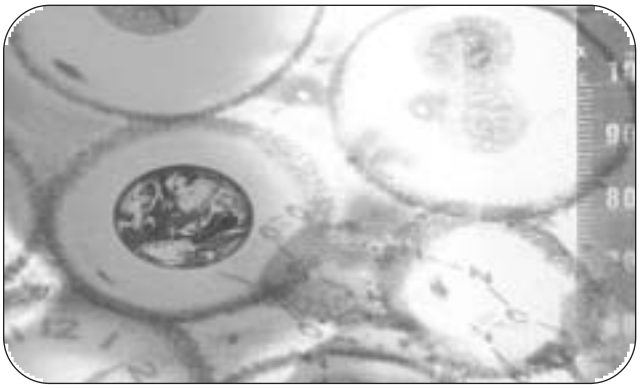

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DEPARTMENTS

AGRICOLA NEWS

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Cover: The society in which we live defines much of who we are and what we believe. Truth and falsehood, right and wrong, and good and bad are things we learn as children and that we take for granted.

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The President's Message

"Science cannot resolve moral conflicts, but it can help to more accurately frame the debates about those conflicts."

- The Dreams of Reason, 1988

As the President of one of the most research-intensive universities in Canada (did you know that NSAC ranks 10th out of the top 79 non-medical-school-containing universities in the country in terms of level of competitive funding?), one would think that I'd accept our scientific advancements as 'just another day at NSAC.' But I'm still a scientist at heart, and so I continue to be amazed daily at the incredible research that goes on at our university. I still sit back and marvel at the key role serendipity often plays in scientific progress and at the results one bears witness to when curious minds are given free rein to explore in directions that curiosity offers. I still react positively in an almost physical way to the idea that our scientific findings are changing lives. What an extraordinary power science has! Yet, with that power comes a great responsibility – a responsibility to understand the impact of our work, a responsibility to conduct our work ethically, and a responsibility to see our work in the context of the world around us. This issue's feature on the social context of research examines this idea from the point of view of two experienced scientists. The issue is also examined by one of our graduate students and an 'up-and-coming' researcher in: Look Who's Talking.

Why do I place so much importance on having good, on-campus debate and discourse on science, research and education? Well, it's because increasing open and free communication at an intellectually advanced level is one of my greatest wishes for any university and this is especially the case for us here at NSAC. It's going to be a critical part of the evolution of our institution, an institution that must evolve and grow in quality, hand-in hand with the applied life science and agricultural industry that it serves. As part of our evolution, the name change continues to be on our agenda. The Minister of Agriculture & Fisheries was unable to approve the new name for the university that we recommended to him, so we're developing a revised strategy to manage this important issue. A name change remains central to our repositioning efforts for the university however, and I remain convinced that the time is right for the change.

As the university continues its evolution, we welcome the continued support and feedback of our alumni. First and above all, we're a place of higher education, a place that produces tomorrow's leaders for the agriculture industry, and that places top-quality graduates into a broad diversity of other industries as well, as each and every graduating class passes through our institution. Elevating the level of discourse on important issues that pertain to our area of academic and research focus while those students are here with us, is part of our role at NSAC. We welcome the chance to bring our alumni into the fold by encouraging their participation in the discussions we're trying so hard to stimulate in our classrooms, seminars, and public debates. Challenging ideas one disagrees with, and offering constructive criticism in open debates about topical issues and having differing viewpoints is what good universities are all about. So, read on in good health and please enjoy this issue of Agricola News!

Philip Hicks
President

The Alumni President's Message

The Alumni are celebrating 99 years of improving opportunities for NSAC students and their quality of life. The small university atmosphere and strong mix of urban and rural cultures is a positive environment for students. We all know very well the strong personal connection we have to the NSAC, partly because of its size, and the closeness we felt to other students and faculty while we were here.

Part of our connection to NSAC is the strength of its focus on agriculture. Most graduates work in the field and that is a testament to the type of education we all receive here. It is also great to know how well-reputed our graduates are in the industry. These are all good reasons to be proud of being an NSAC alumni. I think we are all rooting for the university to maintain a unique place amongst Atlantic Canadian post secondary institutions.

As we move towards the 100th anniversary, many great things are happening.The administration is looking for an expanded institutional identity that will speak to the changing demands and interests of students. Modernization of the residences will hopefully begin soon. Expanded technical resources in classrooms will provide the resources for the best education possible. Again, all good reasons to be proud of your connection to NSAC.

The Alumni Association is planning some potential long-term projects to improve the quality of life for students and the local community. We have struggled with management of the funds in the association's care and have been looking at the association's role within NSAC. We have been moving to integrate the funds with the NSAC Foundation. We have been building the Student Emergency Fund over the last few years and, more recently, have supported the development of Friends of the Garden and the new rock and trough gardens. With all of the organizational changes afoot, we are getting our feet under us and hope to do something in the alumni theater.

Please continue to support NSAC's Centennial and the celebrations being planned so we can all celebrate past and future students of the NSAC. But first, let me personally invite you to Homecoming 2005, slated for October 15th and 16th. Make it your plan drop in and see old acquaintances at homecoming weekend in October. It is a great chance to renew old friendships, be part of the changes ongoing at the university, and help shape new initiatives of the Alumni Association.

No matter how much the NSAC changes, it will always play an integral role in the agriculture industry. Continue to value your experience here and embrace the opportunities to stay connected. After all, isn't that what we all valuemost about NSAC?

Jeffrey G. Morton

Jeff Morton, Class of '79
President

Around & About.....

David Christie, BSc. (Agr), Class of '04

New Alumnus Finds Focus and Memories

Where we begin our lives has a lot to do with where we end up.

Just ask David Christie who graduated in May with a BSc(Agr) in Agricultural Mechanization. Through his life in a farming family and his subsequent education at NSAC, he discovered a specialization that will challenge his mind and help farmers.

Growing up on their family's 150-acre dairy farm in Lynnfield, New Brunswick, David and his sister Barbara learned farming the old-fashioned way: chores. Since Barbara did a lot of the milking, David found himself looking after the farm equipment and systems. "It just fell to me to pick up the slack elsewhere. Farms do a lot of their own machinery and systems maintenance. So that's what I did."

In high school, David realized he had grown interested in engineering, specifically agricultural mechanization. "I contacted Kevin Sibley (NSAC Department Head, Engineering), and he helped me understand the opportunities of engineering in agriculture." So David channeled his interest in all things mechanical into his higher education, choosing NSAC and its Agricultural Mechanization program.

"Choosing NSAC was an easy decision for me," says Christie. "My sister was at NSAC then and it was close to home. I considered some other universities but got offered a great scholarship at NSAC that closed the deal for me."

And family figured highly in David's experience, as it always does. "My sister was the head of Beanie Patrol. Whether I liked it or not, everyone knew my name after frosh week."

When asked about his on-campus experience during his time at NSAC, David talks about a strong sense of belonging. "I spent four years in Chapman, in six different rooms. I think I had the same experience everyone does — it can be annoying at times, but it's great to be around people just like you. There was always someone to goof off with, hang out with. I wouldn't have had it any other way."

David's schedule was very busy in his first two years, but his last two were pretty flexible. "I had a great schedule — a couple of days off each week. So I had time for a social life and some activities I enjoyed." He was a member of NSAC's drama society for four years, appearing in *Death and Taxes*, *It's Murder in the Wings*, and *Oh, Promise Me*. He spent some time in student government, and volunteered at various student events. And, of course, could be found at the pub every Thursday and Saturday.

"I think my greatest memory is my first year as a frosh, just hanging out with a group of friends, and lots of foolishness."

And it is his positive experience that is bringing David back to NSAC this Fall. He will start his Masters in Ag Mechanization, focusing on machinery system cost analysis. "I did my fourth year project on agricultural mechanization. Although I wasn't sure I wanted to do my Masters, Dr. (Ali) Madani convinced me to apply for a NSERC grant just in case. I got a really good response to my topic because it's not a common area of specialty." David then presented on the same topic at the Ag-Challenge in Saskatoon, and won for paper presentation. "The judges were really receptive and I loved it, so here I am."

David will use his NSERC grant to research more empirical approaches to machinery system cost analysis. "There's not a lot of research on the topic. Right now, most farmers use a mix of intuition and calculation." David's research will provide farmers with better ways to identify the machinery that is optimal for their operations, and the appropriate replacement schedules.

Yet David has not forgotten his love of farming. He and his sister now own four quality, purebred Holstein cattle and have plans for more. "We hope to eventually start our own farm or take over our family's someday." With their formal educations and a whole lot of real-life experience, the emerging face of farming looks fresh and energetic.

Rayanne Nelson, Class of '03

Following Her Heart and Head

When asked about her original career plans when she enrolled at NSAC, Rayanne Nelson ('03) laughs good naturedly. Like many undergrads, she came to be educated and identify her career options in agriculture. "I knew I wanted to take business in some form and work in the agriculture industry but, beyond that, I didn't have one job in mind."

Rayanne grew up in Brookfield, a nearby community firmly founded in agriculture. The draw of being educated nearby was always there for her, she always knew she'd start her higher education at NSAC. And her time at the university opened her eyes to the sheer number of career options available. "I came without knowing the possibilities." During a course on ag policy, she immediately felt drawn to the subject. "The uniqueness of working in ag policy struck me because it affects so many people. To help make decisions that affect such a large group of people really appealed to me."

After graduating in 2003, Rayanne looked at her possibilities and settled on her current role as Coordinator for Old Home Week in Charlottetown, PEI. The job attracted her interest both personally and as a willing advocate for the industry. "When I was a kid, I went to exhibitions all across Nova Scotia with my Dad, we did them together. I loved them growing up." As an adult, Rayanne sees the importance of events like Old Home Week to the task of building bridges between agriculture and the rest of our communities. "Today, I see urban people becoming separated from rural communities and agriculture specifically. Many people don't realize what goes into producing the food they eat, they find it difficult to appreciate the life of farmers. So, yes, we provide the commercial aspects like the concerts and the Midway to attract people, but we are, more importantly, building a bridge between agriculture and the many communities we supply." For Rayanne, Old Home Week helps create a broader understanding of agriculture and the real people behind the industry.

Not one to stand still for too long, Rayanne is working towards her CGA (Certified General Accountant) through a correspondence course designed for busy career people. "I am interested in farm planning and the finances of agriculture, so my CGA will give me some added flexibility and a stronger background in that subject. Farmers will always have to deal with money, so there will be a need for my skills down the road."

For now, Rayanne is content to build Old Home Week's reputation and appeal. And she looks to her future with an open mind. "I still don't know where my place in agriculture is. Agriculture is constantly developing and evolving, so five years from now, my place may be very different than it is now." Yet she is sure her place is in agriculture, it's in her blood.

Old Home Week in Charlottetown runs from August 13th to 21st. For more information, visit:

www.peiprovincialexhibition.com

NSAC Heritage Contest

NSAC is having a heritage trivia contest to help celebrate our Centennial year!

The contest is designed to interest a diverse audience including faculty, staff, students, graduates and the general public. People are encouraged to discuss the questions with others and enter answers as individuals or as a group.

Four groups of prizes will be awarded during the 100th birthday event on February 14, 2005. In the event of tied placings, the order of the top two or more prizes may be chosen according to a draw. First, second and third place prizes will be awarded in three categories:

Group 1 - Faculty and Staff - 1st, 2nd and 3rd.

Group 2 - NSAC Student - 1st, 2nd and 3rd.

Group 3 - Beyond Campus - Alumni and Friends of NSAC - 1st, 2nd and 3rd.

The prizes include:

1St place prize: NSAC wool blanket

2nd place prize: NSAC sweater

3rd place prize: Specially framed sketch of historic Cumming Hall

A fourth group will be the prospective students group. NSAC has created the Heritage Scholarship for this winner, a one-time award of $500 paid upon enrollment at

Continued on page 26

The Social Context of Research — A Discourse

In April, NSAC was fortunate to have Dr. Robert Dykes speak on The Social Context of Knowledge Translation during the Class of '44 Lecture. We took the opportunity to ask both Dr. Dykes and NSAC's new Dean of Research, Dr. Leslie MacLaren, to respond to a series of questions on this topic.

1. Can you share your thoughts on the social context of research?

RD: The society in which we live defines much of who we are and what we believe. Truth and falsehood, right and wrong, and good and bad are things we learn as children and that we take for granted. For example, only 50 years ago we believed that women should work at home and care for the children. This century-old "truth' is not accepted anymore in North America even though some other societies still believe it and keep it as the social norm, with deviance being severely punished. The changed role of women in our society is a good example of two facts about the relationship of the individual to society. First, there are many things that we take for granted and never question but which are, in fact, part of our culture and lifestyle rather than a necessary truth. Second, what is right and what is wrong depend upon the social context in which we live. In the case of research, even if we agree that the scientific method is useful and helps us understand the world around us, the way we apply what we learn from research depends upon belief systems outside of the scientific method. For example, in our society there is a current debate on how we should use science to interpret the teachings of the Bible. In some states of the USA, there has been an effort to ban the teaching of evolution in public schools because it contradicts the teachings of the Bible. Thus, the social context helps us determine what we do with the knowledge we can gain from research.

It is interesting that as a society we have accepted scientific research methodology as a way to improve the technological and medical aspects of our lives, yet try to ignore the ability of scientific method in social research to influence our behaviour and value systems.

LM: Society's response to research depends very much on the type of research being considered as well as the particular culture in which it is being discussed. "Dynamic" is probably the only safe way to describe these relationships — scientific, and in particular health-related research, has become recognized in popular society as something that universities and drug companies "do". I'm not sure that the fact that public money supports the vast majority of the scientific research in Canada is on many people's radar screen, but when it is I think that it is recognized as valuable in general. On the other hand, the rapid technological changes that have resulted from research, like any change that affects our daily life, raise questions of ethics, impact and consequences as they should. I think that the dialogues between society and researchers is healthy when you consider the wide number of advocacy groups on issues as disparate as genetically-modified foods and assisted suicide. It is interesting that as a society we have accepted scientific research methodology as a way to improve the technological and medical aspects of our lives, yet try to ignore the ability of scientific method in social research to influence our behaviour and value systems. We pretend that such methodologies, which are really only accepted for use in the form of advertising, do not exist. The very existence of advertising suggests that we have the capability to modify our culture in a systemic way beyond developing new tools for producing food or maintaining our bodies. That we do not pursue this makes it obvious that as a society we do limit what we think is acceptable in research to what we can handle morally.

2. To whom should researchers be accountable?

RD: In an earlier age, scientists were the rare eccentrics of society who pursued a deeper understanding of a phenomenon to satisfy their own curiosity. Sometimes they were individuals who were wealthy enough to devote the necessary time to do research and others depended upon wealthy benefactors who enjoyed learning and being entertained by an eccentric scientist. It was not until the end of the 19th century and the beginning of the 20th century that it became apparent that research could

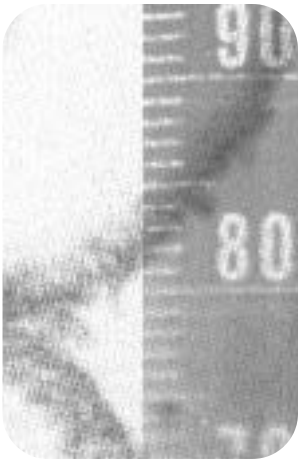
develop new knowledge that was beneficial for society as a whole. With this newly won respect, research became an activity practiced by the learned; professors took on research activities and shared their new knowledge with their students. Research findings were disseminated at social gatherings in universities and then were published as the proceedings of these private societies. Then in the early part of the 20th century, governments began to subsidize research because it became apparent that there were economic benefits to these activities. This trend was accentuated by WWII when governments began to fund research for defense purposes. After this war, governments began to fund research in the areas of healthcare and agriculture to improve social well-being. Now the majority of scientists work in public institutions and their research is funded by public moneys. They may or may not be university professors. I believe that this new relationship where the state is the representative of society and the individual member of society is the major purchaser of scientific knowledge requires an accountability of the individual scientist, (1) to use wisely the resources allotted to him by the state and (2) to make the results of his research available to others by placing it in the public domain. Accountability does not necessarily mean that the scientist is obliged to work on things that have a clear social or economic benefit for society. Serendipity and indirect uses of knowledge are so common that there is no need to justify the fundamental usefulness of basic research. Nevertheless, the fact that the scientist uses public funds means he must render an accounting of his activities whether it is a publication in the Journal of Irreproducible Results or a highly valuable patent for an inexpensive way to desalinize seawater.

The reality is that there is never enough money, either public or private, and so there will always be constraints and the scientist will be confronted with the need to convince others that his activities are worthwhile.

LM: As a group, of course, researchers are accountable to the public. Having said that, probably the most important component of good science is the individuals' curiosity and compulsion to explore a problem, and in this way science is like art or literature — it satisfies a need within the individual carrying out the activity and may or may not directly benefit society. However, we easily recognize that all of these activities enrich our society. At a more logistical level, researchers at universities and other public institutions must meet ethical guidelines with respect to biohazards, animal use and the use of human subjects before they begin their research, and this level of accountability to their peers is appropriate and also changes with society's response to the outcomes of research. Once the research is done, researchers must share their findings and subject them to the scrutiny of their peers and those who may benefit directly from their work. This level of accountability is essential. It is also from this scrutiny that the public at large takes its cues as to the social importance of the research.

3. Is dealing with the social context of research a slippery slope for the long-term management of research programs? That is, where is that line in the sand researchers (and the public) cannot cross?

RD: I believe there is a real need to leave the scientist free to decide how to manage his research program in his own individualistic manner. The reality is that there is never enough money, either public or private, and so there will always be constraints and the scientist will be confronted with the need to convince others that his activities are worthwhile. However, creativity is not something that can be ordered. It arises from the intimate familiarity with a puzzle that is of enough interest to an individual that s/he continues to explore and manipulate it incessantly. Thus, managed or goal-directed research dictated from a central authority has clear limits. Is there a relationship between the increasingly complex and centralized way the drug industry is doing research and the declining number of drug candidates in their pipelines? Creativity and innovation arise from an intimate understanding of the phenomenon under study. There seems to be no replacement for this personal investment in a problem. However, there are enough wise administrators who understand this so that I do not think there will be a need to draw a line in the sand.



LM: Since I believe that research is an independent intellectual pursuit, management of research programs really involves collecting people who want to work in the specific area of interest and providing them with the environment to facilitate that type of research. The public response to research will span the continuum from private support — for example, donation of funds to the Canadian Cancer Society - to complete indifference, and the other extreme - to using all means possible to stop a program - for example, extremist animal rights groups' endorsement of institutional sabotage to stop animal experiments. It is the balance of public responses, as well as the response of the scientific community to the public's concerns, that do and should continue to dictate the limits of the individual's right to pursue his/her research. From a more pragmatic perspective, today most researchers are much more accountable than they were even 50 years ago. Universities have institutionalized "guidelines' that are rules, and through their control of space and funding, as well as a tightening on the freedoms of tenure, they do set real limits on researchers.

4. Can you talk about the nature of your own research in the context of social accountability?

RD: I did not have enough money to go to graduate school on my own. I was funded by a government scholarship that, in return, required me to spend 10 years teaching or doing research. However, no one ever told me what research to do. Other than to insist that I have a career of teaching and research, no one ever asked that I account for my activities. Is my work on navigation in seals more important than the work on nerves re-sutured by a plastic surgeon? I doubt that we have a metric to decide what socially useful research is. Thus, I do not think that we can tell others what to do research on, unless the scientist voluntarily enters into a contract and the other party requests studies on a particular topic. Thirty years ago, New Zealand decreed that all government-sponsored research would be directed towards social needs. Things like the study of zoology received little or no funding. About five years ago this law was repealed because it became evident to legislators that this rule condemned New Zealander scientists to do second-class research and no research whatsoever in some areas. Nevertheless, the fact that governments pay for research suggests that there exists some kind of unwritten pact between society and the individual scientist. The willingness of society to pay for his/her activities implies that there is a generalized belief that s/he will do something that will eventually benefit society. My reflections on this relationship have brought me to the conclusion that I have completed my obligation to society for the funds invested in me and my research activities when I have published the results of my experiments so they are available to other scientists and to society in general.

LM: My research is in Animal Science, which is a very practical field of study, but the research itself has often been very 'curiosity-driven' or fundamental in nature. To justify my place in this area of study - which is historically based on empirical research rather than an understanding of biology - I have often been asked the question of whether the research is relevant to the target industries. Interestingly, when the topic of research like mine comes up in a more traditional biology environment, the work is considered to be so obviously applicable to the animal industries that it is considered to be ineligible for basic research funding. This illustrates very clearly that social context and relevance is like beauty — it is in the eye of the beholder. I have no doubts that both curiosity-driven and applied research add value to society. Solving problems depends on innovation and creativity, which arise from new ways of looking at ideas and concepts. The progress along the continuum from observation and fundamental discovery to refinement of a technological innovation is often described as a 'pipeline'. This analogy is a good one, because it emphasizes that there is a direction of movement and a dependence of the flow at one end on movement early in the continuum. In other words, applied research depends upon fundamental research. Serendipity is another essential word in science and technology development. The non-stick frying pan I use at home arose from a defense-related research program that morally I may have had difficulty supporting. The difficult question for society is how much 'investment' in research is appropriate, since we have other more immediate needs as well. This is also a difficult question for universities, since they also have other responsibilities, and must respond to societal changes to stay relevant. At the same time, they must show leadership, which may involve choices that are unpopular.

5. Is understanding the social context of research a matter of maturity and life-experience or can it be taught to others in a meaningful way?

RD: I am not certain how to teach this to others or even if that is what should be done. Oppenheimer, the father of the atomic bomb, became the most strident opponent of nuclear weapons. He had no course in social responsibility. There are courses on the history of science, the philosophy of science and sociologists study science, but I do not think that we need to require a student who wants to be a scientist to take specific courses on these issues. If anything, these issues should be part of a more general program for the average college student. I am reminded of C.P Snow's book, *Two Cultures*. Both scientists and non-scientists have to be more aware of what new knowledge is doing to our society. Perhaps the issue of social accountability and science might be part of a course on ethics and science. There has been a recent call by some to make scientists more aware of the ethical and moral issues that scientific research creates. For example, the power to save the lives of very ill people has left us with the dilemma of when to withhold treatment in the dying. These kinds of questions deserve discussion by not only scientists but by the public in general since they are issues for our society as a whole. Currently our society is under stress from the rapid growth of our useful knowledge base and by the technology that makes knowledge rapidly available to the initiated and the novice alike. This stress will lead to a change in the social pact between science and society, in part, because the rapid growth of new knowledge and its novel applications are straining the current rules of our society. The role of science in biology will lead to

Perhaps the issue of social accountability and science might be part of a course on ethics and science. There has been a recent call by some to make scientists more aware of the ethical and moral issues that scientific research creates.

even more ethical dilemmas: When do we have the right to create new life, to modify the characteristics of a species, to resuscitate a dying person, to abort an abnormal fetus? Inevitably this will create a continuing debate about the appropriate role for science in our society and the scientist will have to be accountable for how he executes the mandate given to him. However, these are things that have no clear answer and so they cannot be taught in a course. The scientist must be an active participant both as a member of society, and as a member of that group which creates new knowledge.

LM: Both. If young people are brought up in a culture that supports research and exposes them to the idea that it is a source of new ideas and new technologies, which may or may not benefit society and need to be evaluated from all perspectives in the environment to which they apply, then they are being educated on this topic. Maturity and life experience shape the context in which we live and interpret any idea. As Dr. Dykes points out, the value system of the young child is established very early, and accordingly value may or may not be placed on establishing a societal place for research. The educational system reinforces and shapes values, and is an excellent place for discussion. Universities are involved very late in the education of a young person, but are a logical place to encourage such discussion, since it is where the young people who will lead society and the researchers doing the science, meet.

Science is a social issue. What is science doing to our culture? What experiments are unethical? Society has to set the norms, so society needs to decide things like when to disconnect a respirator.

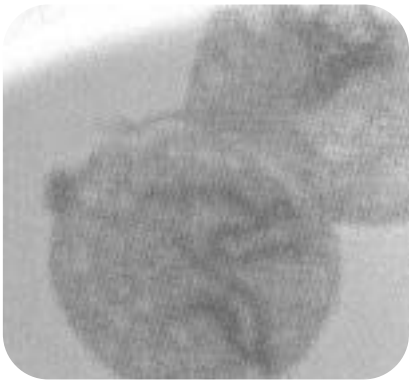
6. How can researchers and educators convey the importance of the social context of research to students who are looking for a science education?

RD: I have always wished for a course or two in the philosophy or sociology of science that would be mandatory for any university student, science or otherwise. Those topics have become so central to our economics and the impact of science in our society. Every student should take part in structured thought on what science and technology mean in our lives. Science is a social issue. What is science doing to our culture? What experiments are unethical? Society has to set the norms, so society needs to decide things like when to disconnect a respirator. In Canada about two decades ago, the legal and medical communities got together to discuss an issue driven by the increasing number of humans who are brain-dead. They tackled the difficult questions. Do we have the right to not treat a brain-dead person anymore, to let them die of an infection? Or should we use their organs for transplants to save other lives? The fact that this type of discourse continues shows how murky the water is when science meets social norms. The knowledge explosion means we can't teach it all anymore. A classical education that included a broad range of subjects is no longer pragmatic. We have discovered we can't teach it all in four years so it's important to create lifelong learners instead, those who will continue to question, throughout their lives.

LM: If a student is interested in science, they are quite likely to be receptive to the idea that science and research impact society since this is likely what piqued their interest. However, all students need to be aware of the extent and commitment of our society to research and of the reciprocal commitment of researchers to society. This needs to be embedded in our public school curriculum, with discussion of both potentially negative and positive impacts. I hesitate to draw the following analogy given the prevailing view on politicians, but the place of research in our society has some parallels with government. It is carried out by a small proportion of society, it is funded by public money, it is essential to a healthy society but can have negative impacts, and requires a dialogue with society-at-large to stay relevant.

7. How do you see research-driven educational institutions changing in 20 years? What are the opportunities? What will be the big development issues?

RD: There are very strong forces changing the way education is delivered in our society. All universities will be affected by these forces that are only indirectly attributable to science. They are more directly related to the rapid growth of our knowledge base and to the need to use new information in the knowledge-based industries of the new economy. I believe that the most powerful force affecting our universities is the growing need for every member of our society to be a life-long learner. The current model of the university is a place where a young person goes for four years to finish his/her education before moving into society as a productive adult. This model presumes that education ends when the person leaves and that the person has sufficient education for his lifetime. Today that is not true. With few exceptions, much of the knowledge acquired in university by a student is likely to be out of date within a few years. For example, the genetic technologies that are modifying all aspects of food production and delivery did not exist when I was a student and I, along with most of the public, am hard-pressed even to understand



Continued on page 19

The 2004 NSAC President's List

NS Minister of Education Speaks

Outstanding students at the Nova Scotia Agricultural University's were recognized this winter for their academic achievement by being named to the President's List. The university's President, Dr. Philip Hicks, is shown with the guest speaker for the event, Hon. Jamie Muir, MLA, Truro-Bible Hill, at a reception held in Truro.

Students Named to the President's List at NSAC

Some of the students who were honoured at this year's President's List reception are shown with NSAC President, Dr. Philip Hicks. From left to right – Aart Terbeek, Winsloe, PE, a 2nd year Animal Science Technician student; Adrien van Dyk, Caledonia, NS, a 2nd year Environmental Horticultural Technology student; and Shelli Meleck, Halifax, NS, a 1st year B.Sc.(Agr.) Pre Vet student.

Students Named to the President's List at NSAC

NSAC President Dr. Philip Hicks is shown congratulating some of the students who were honoured at this year's President's List reception. From left to right – Doveasy Mitton, Scotsburn, NS, a 2nd year B.Sc.(Agr.) Pre Vet student; Krista Gavel, Antigonish, NS, a 3rd year B.Sc.(Agr.) Pre Vet student; and Jodi Muise, Yarmouth, NS, a 4th year B.Sc.(Agr.) Animal Science student.

Students Named to the President's List at NSAC

Outstanding students at NSAC were recognized for their academic achievement by being named to the President's List. Some of the students who were honoured are shown with the university's President, Dr. Philip Hicks. From left to right – David Leopold, Brookfield, NS, a 1st year B.Sc.(Agr.) student; Jennifer A. Reid, Stanley Bridge, PE, a 1st year B.Sc.(Agr.) student; Sherri Shaw, Clarenville, NL, a 1st year Animal Health Technology student; Ryan Riordon, Pokeshaw, NB, a 4th year B.Sc.(Agr.) student.

NSAC Alumni Directory: Centennial Edition 2005

The Development Office is working with Harris Publishing Company, the leading publisher of alumni directories in North America, to produce a Centennial Edition of the Directory and work will continue during spring and summer. You will be receiving mail and phone calls from Harris on behalf of NSAC as they do research for this important project. We encourage you to provide them with the information they need to update our database. Below is a list of Frequently Asked Questions about the directory project that may help you understand the process more clearly.

Why was I asked to return the directory questionnaire to an Ontario address?

We have selected Harris Publishing, with offices in Virginia and Ontario, to produce our new directory. Harris has an excellent reputation and has produced over 4,000 directories for a variety of colleges, universities, high schools, and membership associations all over North America.

Why did Harris call me even though I returned my questionnaire?

We've asked Harris to contact everyone by phone, to make absolutely sure the data we have for you is current. You'd be surprised how many people change jobs or move between the time they return the questionnaire and the time the directory is ready to print. Plus, we want to be sure that all spelling is correct so that our directory is accurate and useful.

When can I expect to hear from Harris?

Mondays through Fridays, Harris makes calls beginning at 8:00 a.m. and continue until about 9:00 p.m., in all time zones. They may try to contact you at work during the day, or in the evening or during the weekend at home. Saturdays, they may call from 8:30 a.m. to 5:30 p.m., while on Sundays they don't make their first phone calls until 12:30 p.m.

Why would Harris call me at work?

A lot of people prefer to be contacted at work. However, if this isn't convenient for you, simply tell the Harris representative. He/she will give you a toll-free telephone number to phone at your convenience or will arrange to call you at home later.

Is it necessary for Harris to call during dinner time?

Over the years, Harris has found that the best hours to reach people at home during the week are between 5:00 p.m. and 8:00 p.m. If you are contacted at a time that is inconvenient for you, simply let the representative know. He/she will give you the Harris toll-free number or will arrange to call you later.

How do people feel about being called on Sunday?

Occasionally, Harris will speak with someone on a Sunday who would prefer to be contacted at another time. If this happens, whether it is a Sunday or the time is just not convenient for you, simply let the representative know. He/she will give you the Harris toll-free number or will arrange to call you later.

Who should I contact if I have questions regarding the accuracy of my listing in the directory?

You should contact Harris directly, since they are currently working to update our list. They have dedicated a toll-free number specifically for our alumni. You can use this number to verify or change your listing or to place an order. That number is 1-800-488-7209.

If my name is listed in the directory, am I obligated to purchase a copy?

Although everyone will be give the opportunity to purchase their own copy of the directory, your name will be listed regardless of whether you decide to purchase a copy or not. You should also know that only alumni will be offered a chance to purchase a directory.

What if I don't want to be listed in the directory? What if I don't want certain pieces of information listed?

Harris can still update your information for us, but will honor your specific request to exclude all or parts of your biographical data from the publication. Just let them know.

How much will the directory cost and when can I expect to receive a copy?

The directory will be available in both a Deluxe edition for $107.99 and a Regular edition for $93.99. Shipping, handling, and appropriate sales tax and/or GST (in applicable provinces) will be added. Your directory will be shipped and is scheduled to reach you by late December 2004.

Is there any difference between the content of the two directory editions?

No. The contents are identical. Only the cover stock is different.

Why does the directory cost so much?

Harris is producing our directory free of charge to the organization. They put a lot of work into the research and production of the directory, so the cost of the directory will cover expenses incurred by Harris.

How will the organization benefit from the project?

We will receive an up-to-date database of all our alumni. This will be invaluable in helping us keep in touch.

Continued on page 26

New NSAC Dean of International Looking to the Future

Internationalizing NSAC is one of the institution's most pressing strategic goals. It is no wonder that the school's new Dean of International is a woman with vision and a drive to make projects happen.

Dr. Dian Patterson competed for and earned the post in April of this year and has a very clear view of her role here. "The Dean of International helps integrate the International unit with the many activities that affect it, like research, students and public sector partnerships. A good dean helps leverage the university's many activities for a stronger International program. It's a big-picture job."

Patterson's orientation towards international work has been a lifetime in the making. Her international experience began in the early 70s when she and her husband volunteered for CUSO in Malawi. "We even got married there!" said Patterson. They later returned so both could attend graduate school, and soon both were busy raising their family. "But in the early 90s, I was working on an animal science project in China and it relit that passion in me all over again."

Increasing the number of international students at NSAC is a college priority, and NSAC International will work closely with the university's recruiting office and Registrar to facilitate this. Increasing NSAC's international research opportunities and its links to other international research institutions are also priorities at the top of Patterson's list. "I want to continue to develop our evolving multidisciplinary approach by ensuring we build international aspects into as many of our courses and research projects as possible. I also see a lot of opportunity in developing joint curricula with international partners."

NSAC has already developed its first joint curricula with another university located in China. As an off-shoot of a China/Vietnam project with St. Mary's University, Dr. Claude Caldwell of Plant & Animal Science led NSAC to develop a partnership with the Fujian Agricultural and Forestry University (FAFU) in China. A group of Chinese students are completing the first two years of their undergrad at FAFU and then coming to NSAC to complete the last two years of their program. They will graduate with an NSAC degree is whatever degree they choose. Said Patterson, "The curriculum at FAFU was set up to closely match the first two years of our programs. In September 2005, we will be welcoming 40 Chinese students to our community and to our campus." International is developing plans to help the college and the community of Colchester prepare for this large influx of foreign students.

Not all the activity at International is new, however. The department continues to focus on partnering with foreign educational institutions that want to build their own capacity for community economic development. NSAC has been delivering economic development capacity to foreign communities since its inception, according to Patterson. And this work provides a clear direction for future program development. "More than ever, we are interested in moving into multidisciplinary projects that integrate individuals from across campus and partners from outside."

"We are working to increase the number of students who travel overseas," said Patterson. Nine students traveled to Central Europe in early May with Dr. Nabil Rifai from NSAC's Engineering department. It is a multidisciplinary group enrolled in a course called Agricultural Systems of Central Europe. "Our students wouldn't have had access to that type of opportunity ten years ago." Students can also take advantage of a course on Food Systems in the Tropics coordinated by Dr. Sam Asiedu and Dr. Steve Russell. "Our European/North American Mobility Program allows for student exchange between NSAC, Great Britain, Finland and Norway. NSAC International will continue to work with faculty and students to develop and facilitate these opportunities. Our international projects mean internships and academic projects for our students. So we have had some great success integrating overseas travel into our education model and curriculum."

To accomplish its many objectives, International recruited an International Student and Exchange Coordinator in May. Krista Lake will work with NSAC's international students to ensure they benefit as much as possible from their experience and learn to live happily within our culture during their time here. She is also charged with helping the community better understand our international students and working with our stakeholders to create a welcoming atmosphere for our students. "The FAFU students will be the big test for us," said Patterson. "If we can create a model for community integration that works, the sky's the limit for NSAC's internationalization goals."

NSAC Offers Certificate of Specialization in Organic Agriculture

To meet the demand for high-level, scientific training in the organic sector, the Organic Agriculture Centre of Canada (OACC) and NSAC have developed a Certificate of Specialization in Organic Agriculture.

This program provides a flexible, learner-centred approach while giving students the vital tools and breadth of understanding they need to work in this rapidly growing sector. The program consists of eight web-based courses, five of which were developed at NSAC with the remainder originating from academic institutions across Canada. Students who successfully complete four of these courses (including at least two from NSAC), with an overall average of 60 percent, can apply to receive the Certificate.

Dr. Ralph Martin, Director of OACC, notes that farmers, both organic and conventional, enjoy taking the courses and asking questions of the instructors from the convenience of their homes. Many have said that it is cheaper to implement new methods of interest by studying the courses than it is to make expensive mistakes by going ahead with too little information.

Learners from varying backgrounds and perspectives benefit from on-line discussions, current research, and hands-on activities that allow them to practice vital skills. In an on-line posting to the course instructor, Composting Skills student Ben Driscoll, of Seaforth, Ontario says, "I have enjoyed this course very much, and have learned the basics a person needs to know about composting... I will be thanking you every time I start a new compost pile. Thanks also to my on-line friends, for the research, knowledge and work that you all put into this course. We all benefited from the sharing of our knowledge. I am currently composting my poultry mortality with excellent results using the wire bin we built for this course. I also have plans for some more small scale composting for the New Year." In these web-based courses, students appreciate the integration of theory and practice, as well as the flexibility that distance learning provides.

The registration deadline for the fall semester courses is August 1, 2004, and the deadline to register for the winter semester is December 1, 2004. Complete outlines for these courses may be obtained at :

www.nsac.ns.ca/cde/courses/DE/organic-certificate.htm

Information on additional course offerings by other institutions within the Certificate of Specialization on Organic Agriculture is available on the Organic Agriculture Centre of Canada's website at:

www.organicagcentre.ca/Courses/courses_web.html.

All organic agriculture courses can also be taken on a not-for-credit basis. As a non-credit student, one is not required to meet NSAC admission requirements and participation in assignments and exams is optional. No mark is awarded upon completion of the course. Non-credit students benefit from full access to the instructor and from the information contained in the course material while also benefiting from the interaction with other participants in the course.

Fall Semester Courses (September-December 2004):

Transition to Organic Agriculture introduces producers, considering transition to organic management, to the principles of organic agriculture, the certification requirements and tips on how to plan the farm system.

Basic Composting Skills is a dynamic hands-on course in which students share their on-line experiences in making compost while acquiring the knowledge and skills for efficient composting and the successful use of compost in organic systems.

Principles of Organic Horticulture, a new offering this fall, will address the gap in training for organic fruit and vegetable production systems. Grower profiles are a key feature of this course and will provide students with essential crop-specific information, production processes and proven grower techniques.

Winter Semester Courses

(January-April 2005)

Organic Field Crop Management

This course addresses the criteria for optimum yield and quality of field crops, within the context of organic farming principles, sustainable soil and nutrient management, and the requirements for organic certification.

Organic Livestock Production

This course introduces producers to the standards, health management strategies, marketing methods and ethical issues of organic livestock production.

For more information on this program, visit:
www.nsac.ns.ca/cde/courses/DE/organic-certificate.htm

UPDATE

Development & Alumni Relations

Centennial is an Excellent Time for Fund Raising Support

The support of alumni and friends for Centennial events and projects would be a great way to contribute to the changing face of NSAC. The centennial year is an excellent time for all Alumni classes to get together to raise money for a special project to help celebrate and mark the event.

For example, the class of '54 is planning to raise $11,000 to support the new information commons learning centre in the Library this fall. The class of '56 is busy raising money for a special environmental projects fund that will be launched during their 50th year.

As we move closer to the 100th birthday of NSAC on February 14, 2005, many projects are taking shape. Here are just a few examples of some of the things planned. They might just give alumni a few ideas of their own.

- A Canada Post stamp has been applied for and we are awaiting official decision. The local stamp collectors' society has requested a 'hand cancel' stamp for the occasion. The decision is pending.
- The Centennial logo is now ready to use on letterhead and print material. Other items are being considered.
- The research for the special Centennial Alumni Directory is well underway and it will be complete by December 2004 The directory goes on sale this summer.
- Cox Field Centennial Amphitheater Project is being led by the Horticulture group of Environmental Sciences and is to be started in 2004. It should be usable in 2005. We are currently looking for funding support.
- A special floral arrangement is planned for Pictou Road for the summer of 2005.
- There are plans for a special display at the Museum in Truro for February 2005. Bonnie Waddell, from the Library, has agreed to lead a team to design the museum display.
- Planning is underway for a Centennial Gala Dinner on Founding Day 2005. It will be held in Jenkins with invited guests, friends and Alumni.
- Dale Ells and Deborah Stiles will be working on a contest that asks 100 questions about NSAC, to build enthusiasm and awareness for the Centennial year. Fabulous prizes will be given to the winners. This initiative will be launched during Homecoming in October 2004 and concluded at Founding Day in February 2005.
- Judy Grant has agreed to lead a team of individuals to plan a series of concerts and events on campus for the summer of 2005. Details will be released as plans are made.

You may follow the development of Centennial events by watching the Centennial page on NSAC's website at: **http://www.nsac.ns.ca/development/nsac100/**.

If you would like ideas or want to help in funding a Centennial project, please contact Jim Goit, (902) 893-7950 or Jgoit@nsac.ns.ca.

LEAVE A LEGACY™

The Gift of a Bequest

Bequests and other forms of planned giving by NSAC alumni and friends are an important and valued support in strengthening the university's commitment to maintaining academic excellence.

A **bequest** is a revocable gift that has been arranged and "expectancy" of receiving a gift following the death of the donor. Donors receive the satisfaction of having arranged a gift for the University, while retaining the use of their capital for life. Donors are not dependent upon the NSAC to arrange the gift, so bequests may not be identified until the death of the donor.

Continued on the following page

***Leave a Legacy** continued from the previous page*

Including NSAC as a beneficiary in a Will allows the donor to publicly state their values through a charitable gift(s) and gives them a sense that they are making a difference to their world while they maintain control over their assets. The gift does not affect cash flow as the donor will continue to receive income from investments during lifetime. Additionally the donor can change or remove the beneficiary at any time if they so wish.

In the year of death, 100% of the bequest is creditable as a charitable donation with a one-year roll back provision. The tax receipt for the bequest produces a tax credit that will offset taxes by up to 100% of net income in the year of death. Any excess of the limit may be carried back to the preceding year for up to 100%.

A person is deemed to have disposed of everything owned a moment before death. All of the capital gain, except the gain in the principal residence or in property given to a surviving spouse, is added to other income earned in the final year of life. Therefore, the income tax payable on the final tax return can be quite large. The credit from a donation receipt can help reduce those taxes.

There are three main types of bequests that can be used to assist NSAC:

1. Specific bequest A specific bequest is a gift of a particular piece of property (e.g., "my diamond ring" or "my shares in XYZ Company") or a stated sum of money (e.g. "$50,000"). This type of bequest is the most certain as it is paid first and the value is fixed.

An example of language that might be in a Will might read: "I give to the Nova Scotia Agricultural College the sum of $100,000.00 to be used for the general purposes of the University"

2. Residual Bequest A residual bequest is a gift of all, or a fraction, of whatever remains (the residue) after all debts and specific bequests have been paid. Residual bequests are not as certain as specific bequests but generally are the most preferable. A person's estate value generally grows with time. A bequest of 10% of the residue of an estate valued at $175,000 twenty years ago might produce a gift of $17,500. However, if the donor died today and his estate has grown in value to $300,000 that same bequest (10% of the residue) might produce $30,000. A specific bequest of $17,500 will not change in spite of any growth of the estate value.

An example of the language that might appeal in a Will might be: "I give to the Nova Scotia Agricultural College all of what remains of my estate following the distribution of my personal articles, and after paying any debts, taxes and expenses, for the general purposes of the University."

OR

"I give to the Nova Scotia Agricultural College fifty percent (50%) of the residue and remainder of my estate, to be used for the general purposes of the University."

3. Contingent Bequest A contingent bequest takes effect only if the primary intention cannot be met (for example, if the primary beneficiary does not survive the donor). This is the least desirable of bequests because the probability of receiving anything is low. Nevertheless the donor's intention to support the NSAC's work may mean that at a later time when circumstances change, the bequest might be upgraded to a residual or specific bequest. (e.g. donors may make a contingent bequest to ensure that young children receive care when young, but when they become adults the bequest may be changed.)

An example of the language that might be in a Will for a contingency bequest might be "If any of the beneficiaries named in this will should die before becoming entitled to receive their distributive share of my estate, I direct my Estate Trustee to transfer the share to which such beneficiary would otherwise have been entitled to Nova Scotia Agricultural College to be used for the general purposes of the University."

The following example may used to help understand how a gif to NSAC through a bequest can help in estate planning.

> Mrs. May MacDonald leaves a $300,000 cash bequest to the NSAC. Her total net income reported on the terminal tax return is $200,000 and the net income the preceding year was $150,000. Her will provided for no other charitable bequest, and she had completed no charitable gifts during the final two years of life.
>
> Bequest $300,000
>
> Amount creditable on final return (100% x $200,000 net income) $200,000
>
> Amount of carry-back $100,000
>
> Amount creditable on return of the preceding year (within the allowable limit of 100% x $150,000) . . .$100,000
>
> Total amount creditable $300,000

As a result of the charitable bequest, income tax on the terminal return is totally eliminated, and income tax on the amended return for the previous year is substantially reduced. Thus, the $300,000 charitable bequest reduces the legacy for May's remaining heirs by far less than the $300,000.

All the examples above are meant for general guidance only. Please see your financial and/or legal advisor for details on modifications to your Will.

The Gordon Kinsman Scholarship is a Legacy for Many

Little did the friends of Gordon Kinsman know when they established a scholarship fund in his name that their request for support among his friends and family would so successful. Yet, like the man it was named for, the scholarship became a legacy for the future of the industry.

What better way to honour a man's memory than to continue his work?

Gordon Kinsman joined the Nova Scotia Department of Agriculture in 1949 as the first Extension Specialist for Berry Crops and went on to leave an indelible mark on the discipline. He was instrumental in developing the first certified strawberry plant program, later adopted by other provinces in Canada. He also developed and introduced the first wild blueberry extension program in Canada and encouraged the introduction of new wild blueberry cultivation methods. He continued to develop the horticultural industry of Nova Scotia until his retirement in 1986.

After Gordon's death in 1999, Jack Sibley and Bob Murray, both former Berry Crop Specialists with the Department of Agriculture, and John Bragg, CEO of Oxford Frozen foods, decided to honour Gordon's contribution to the industry and established the Gordon B. Kinsman Memorial Scholarship at the Nova Scotia Agricultural College. They wrote letters to friends, relatives and industry contacts with whom Gordon had worked during his career, requesting contributions to the fund. In just two years, the group raised $30,000 thanks to a thankful and generous blueberry and horticulture industry in Nova Scotia.

The funds were deposited with the NSAC Foundation and the investment income was used to provide an annual scholarship to a graduate student in horticulture at NSAC with special priority given to students whose course and project work reflect an interest in the blueberry industry.

The first Gordon B. Kinsman Memorial Scholarship was awarded in 2000 by Gordon's wife, Virginia, to Peter Burgess of Truro, NS, whose M.Sc. project studied erosion control for wild blueberries. Since then three other scholarships have been awarded.

But the story does not end there! Gordon's sister Eleanor and her husband Arnie Veague would play a special role in this tale of one man's legacy. After Arnie retired from a successful career practicing law in Bangor, Maine, he and Eleanor spent the winters at their condo in Florida. Both were very active in the community and had many causes to support. They made generous provisions in their wills for both family and their favourite charities, including the Gordon G. Kinsman Scholarship Fund.

When they died within two months of each other in the spring of 2003, their bequests to the Gordon G. Kinsman Scholarship Fund had an instant impact. The fund held by the NSAC Foundation nearly doubled in value. Thanks to their generosity, more scholarships could be awarded, helping more students make their own unique marks on the industry.

"Gordon would be very pleased to know how generously his friends, colleagues and family support the scholarship," says his wife Virginia.

Gordon had a keen interest in both the industry and in helping young people get a start in the field through education. His legacy lives on through these scholarship students and the contribution they in turn will make to the industry.

Through the legacy of this scholarship fund, Gordon Kinsmen continues to create magic in an industry he loved. And his legacy inspired another from Arnie and Eleanor Veague. What better way to honour a man's memory than to continue his work?

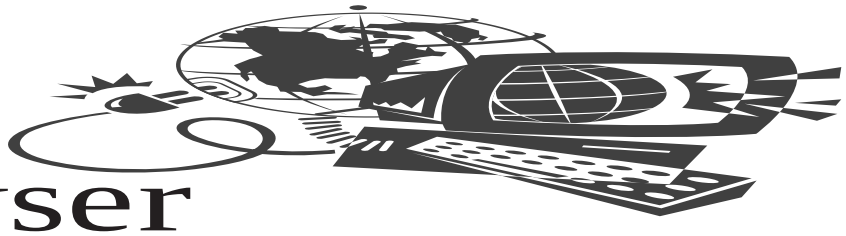
The NSAC Alumni Association Annual General Meeting

When: Homecoming Weekend, October 16, 11:30 — 1:30

Where: Jenkins Hall, NSAC Campus

Everyone (including spouses) is invited. Come and get an update on your Association's activities in the last year plus an update on NSAC. Class photos and a campus tour to follow.

University Websites Pleasing the Browser



NSAC continues to improves its systems and programs for the benefit of our students, alumni and other important stakeholders. Recently, Agricola News asked Tim Delaney, NSAC's Web Coordinator, to shed some light on university websites and the students who access them.

AN: How are university websites changing to be more student-centered?

TD: University websites are evolving to become not only more student-centered, but also more attractive to those interested in research, alumni affairs and giving, as well as the public at large.

Most university websites recognize two groups of students: prospective students and current ones—and their needs are distinctly different. A prospective student is in the midst of deciding whether or not to attend your university, so the website has to reflect things a prospect would consider important. The current student wants to keep informed about university issues that impact on their lives as students, to have access to information that helps them in their course work and to be able to interact with the administration—so-called e-Commerce.

A third group of students is the continuing education or distance education student. This person may or may not be a current student. They might be taking a non-credit course for personal enjoyment, a credit course by distance education or a professional development course. Right now, most university websites don't place a high emphasis on this category of student, but over time this group is likely to grow and shouldn't be ignored.

AN: From a student-centered point of view, what are some of the most important features or functionalities a university site should have?

TD: Prospective students are primarily interested in whether they can take a program that interests them, whether they can participate in athletics and other interesting activities—on campus and in the community - and whether the general social life appeals to them. A university website should include information about those issues. For the most part, that would be colourful, descriptive text along with current, engaging photographs. Some of the topics would be available programs, athletics and other activities, a glimpse of the social life on campus and in the community, facilities—including residences, as well as testimonials or success stories from current students and alumni.

In terms of functionality, in addition to an intuitive navigation system—so visitors can easily find the information they seek - a panoramic or "virtual reality" tour of the campus can let the prospect view the layout of the campus. Other features should include a method of contacting the institution to have a question answered, to request more information, or even apply online.

Current students want to be connected with the university, they want to be informed about current events and activities. They also want access to information to help them with their courses. For example, an image bank of plant specimens for a plant identification course. They want the ability to interact with university administration, especially the registry and financial services, so they can register for courses, view schedules, obtaining marks and tend to their financial affairs. Graduating students beginning their careers are interested in advertisements for potential jobs and information that can help them secure meaningful employment.

Continuing or distance education students could require anything from a catalog of available courses to entire courses, including testing and electronic payment.

AN: How will our new site be more reflective of student needs than it is now?

TD: We're making improvements to almost every aspect of the site, but the two most dramatic improvements will be in the navigation system and in the delineation of prospective and current students. Our new navigation system will allow visitors to roll their mouse over a comprehensive menu and go where they want in one or two clicks. We're developing the prospective students' and current students' sites so the text will have more of a marketing edge and we'll be updating and improving the images displayed on the site.

We have already improved functionality with the launch of our new Student Information System (SIS). Students can now register for classes online and will soon be able to view their marks and tend to financial matters over the web. Behind the scenes, we will be implementing tools which will help us keep content on the site current.

AN: How is your strategy tied into our marketing objectives? Our enrollment management activities?

TD: The strategy for developing the website coincides with both our marketing and enrollment management strategies. Marketing is about making people aware of what we have to offer—what's unique about us—the NSAC brand. Enrollment management focuses on attracting and retaining students. The website should assist both strategies - it should showcase everything we have to offer to educate and attract students to our university and it should have information and functionality that enriches the NSAC experience for current students.

Valuable Life Sciences Collection Donated

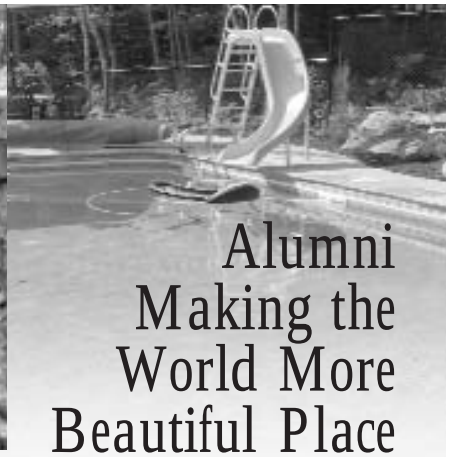
NSAC President, Dr. Philip Hicks, and Chief Liberian Bonnie Waddell look over the collection of bound journals that Dr. Hicks recently donated to the MacRae library. The collection contains journals on human and animal physiology that the library did not have and will be useful for students at NSAC and throughout the region.

Dr. Philip Hicks, President of NSAC, donated his personal collection of neuroscience journals to NSAC last year, valued at $31,000. The collection will be used by NSAC to leverage current opportunities and partnerships. For instance, the collection may become part of an exchange project with another post-secondary institution in Canada or it may be donated to a medical school in a third world country that is in most need of the collection's materials. In-kind donations to NSAC are valued as important assets for the university and are put to use as academic or research resources or within the Universities network of partnerships and projects.

Look Who's Talking *continued from last page*

7. How do you see research-driven educational institutions changing in 20 years? What are the opportunities? What will be the big development issues?

I think that research will definitely play a more dominant role within educational institutions. There has been steady growth in the quantity (and quality) of research being carried out at universities and I would expect this to continue in the future. Industry partnerships with universities and government institutions will become more common in an effort to achieve research goals in a more industry oriented, efficient, and cost-effective manner. This increase in research funding will allow universities to provide better research facilities, which in turn will attract more students as well as high-calibre researchers.



Alumni Making the World More Beautiful Place

What do Alfie Zappacosta and your home's landscape have in common? If you're lucky, one talented landscape entrepreneur named Doug Conrad ('90).

Doug Conrad, owner of Creative Light and Landscape in Dartmouth, has traveled an interesting road to his niche landscaping company. Trained as a lighting technician, Doug spent a year on Baffin Island and soon realized how much he loved (and missed) a green world. When he returned, he saw a landscape plan created by students at the Nova Scotia Agricultural College (NSAC) and knew he'd found his calling. "I was on the waiting list to get in when I was asked to go on the road with Alfie Zappacosta as his show's lighting tech. But at the last moment, I got word I'd been accepted to NSAC and the choice was easy."

After graduating in 1990, Doug knew he'd only be happy working for himself. So he applied his significant business background to build Creative Light and Landscape. "I kept it small so I can control quality for each project," says Doug. "Our company is growing well because of the people working with me. We could do more volume but something would have to give, so we keep it smaller and focus on quality."

According to Doug, a strong education in horticulture and landscaping provides customers with a better long-term product. That's part of the reason he brought Guy Boissoneau ('04) on board. Guy just graduated from NSAC with a Diploma in Environmental Horticulture Technology this past May. "I knew the program would focus more on the science side of horticulture," says Guy. "It gave me an inside knowledge of plant material, soil and fertility. So, when we work on client projects, they get a better product that will last."

Guy is glad he prepared for his career with a formal education. "I have no doubts going to work in the morning. My education got me ready and gave me a lot of knowledge so I am confident in my work." He also likes the variety the work provides. "I get to go to different work sites all the time so there's always something new. And the end results are pretty cool. Then I get to start all over at a new job site."

Creative Light and Landscape has received awards for its impressive installations. The company has received the Award for Residential Installation over $10,000 three times, in 1999, 2002 and 2003. The award is given by Landscape Nova Scotia.

Social Context *continued from page 9*

what is meant by genetic modification. It is little wonder there is social resistance to scientific innovations. Today's university is not ideally suited to disseminate new knowledge in our society. The average individual is expected to change skills several times throughout his working life. Because the university is not structured in a way that readily provides education to an individual once he has entered the workforce, private companies are beginning to take an important role in continuing education activity. In Quebec the government requires that all organizations use one percent of their salary budget to pay for the education of their workforce. Universities receive a negligible percentage of this amount, estimated to be several billions of dollars per year because universities cannot offer the required type of education at the right time or in the right format. Will the private sector take over a growing proportion of the education of the members of our society? It would be unfortunate if the university were to become marginalized as did the educational systems of the Middle Ages. Today the monasteries remain only as a pale shadow of the important social contribution they made to the advance of civilization several centuries ago. Should this be the fate of research universities in particular, then this would imply that there would be a distancing of scientific research from the mainstream of our society. A more optimistic scenario is one where research-intensive universities adjust to the new realities of life-long learning and become better integrated into the processes of commercialization and applications of the intellectual property that they create.

LM: Research has become part of our culture, and the institutions that do research will learn to integrate research and education much more effectively than they have so far. This will be driven largely by the students, who are coming to universities in much larger numbers with very different expectations and skill sets than they have had traditionally. Social context is a cross-cutting theme regardless of topic — students expect answers to questions like 'how does what you're doing or saying relate to how I live my life' and 'does it affect the environment as a whole'? Recognition of this trend is evident in recent changes in mandate of the Natural Sciences and Engineering Research Council (NSERC) and the Canadian Institutes of Health Research (CIHR), which are the major federal funding agencies for science, engineering and health research in Canada. NSERC has several programs aimed at emphasizing the importance of science and engineering to kids in the educational system, and has increased its efforts to promote and facilitate research at small universities and colleges. CIHR has a broad mandate to fund and promote research that increases the health of Canadians, which includes implementation of research findings, assessment of their impact in communities and a strong emphasis on the socio-economic impact of health-related technologies and approaches. Both agencies are working very hard to show the public what they are doing and what the researchers are doing in an effort to improve communication between researchers and the society at large. They hold open forums and listen, too. Universities will need to follow suit, and will need to adjust to a changing student body that has different needs and expectations. Vast amounts of information are available on every topic, and discerning the important from the unimportant and the true from the untrue are the new life skills. In the laboratory, the borders between research disciplines are becoming ever more blurred — at NSAC we have physiologists looking at the influence of diets, nutritionists examining soil & plant types, and horticulturists interested in estrogen functions. Farming has always been interdisciplinary, requiring an understanding of the sciences, engineering, economics and marketing, as well as the ability to respond to a continuously changing environment and adapt new technologies. Our university education and research will have to follow this example.

Dr. Robert W. Dykes *Trained as a classical physiologist, Dr. Dykes began his academic career at Dalhousie University where he studied the sensory signals from the whiskers of seals. He moved to McGill University to examine the recovery of sensation following peripheral nerve injuries and then continued his research at the University of Montreal where he studied the capacity of the brain to adapt to sensory losses such as amputation. He served as Director of the research center of the Institut de réadaptation de Montréal and now has returned to McGill University as an Associate Dean and the Director of the School of Physical and Occupational Therapy. During this time Professor Dykes has published over 125 scientific articles and several popular works on a diversity of scientific subjects.*

Dr. Leslie MacLaren *In June, NSAC announced its new Dean of Research, Dr. Leslie MacLaren, a member of the Faculty of Animal Science and an active researcher. Dr. MacLaren carried out her early graduate work in animal genetics at the University of Alberta and then taught at New Liskeard College of Agricultural Technology for several years before returning to graduate school. At the University of California, Davis, she studied the reproductive physiology of sheep-goat chimeras, unique animals derived from combining the early embryos of sheep and goats. Dr. MacLaren moved to the University of Guelph to train in a molecular biology laboratory before coming to NSAC in 1994. She has applied these techniques to understanding the biological problem of pregnancy establishment in domestic ruminants, with a focus on the process of pregnancy recognition and addressing pregnancy loss in these animals. Dr. MacLaren teaches physiology and reproductive physiology to technical, undergraduate and graduate students. As the department animal physiologist, she collaborates within the department and across institutions in Canada and the U.S. in a variety of research areas related to domestic animal physiology. Her involvement with the Natural Sciences and Engineering Research Council, first as the NSERC Rep and then as a Grant Selection Committee Member, as well her other involvements in scientific organizations and committees, has developed her interest in the role of research administration in supporting researchers. As Dean of Research, Dr. MacLaren wants to play an active part in improving the research environment at NSAC from the perspectives of all involved, including faculty, staff and students.*

Convocation 2004

Grad Class Chairs

The 2004 Grad Class Co-Chairs Bonnie Cameron, Lr. Sackville, NS and Jody Muise, Yarmouth, NS, are pictured with Dr. Philip Hicks, President, NSAC. Both are B.Sc.(Agr.) graudates from the Animal Science option. Jody was also the recipient of an NSERC Undergraduate Student Research Award and the Ketchum Manufacturing Company Limited Prize.

Class of 2004 Life Executive

Life President: David Christie

David Christie, Lynnfield, NB, was elected Life President of the Class of 2004 by fellow classmates. David is a B.Sc.(Agr.) graduate, Agricultural Mechanization option. David was also the recipient of the Dr. Gerry W. Friars Undergraduate Research Prize.

Life Secretary: Denyese MacDonald

Denyese MacDonald was elected Life Secretary of the Class of 2004. Denyese is a graduate of the B.Sc.(Agr.) program, Animal Science option. Denyese also was the recipient of a Bronze Distinction Award. Dr. Philip Hicks, President, NSAC, is shown congratulating them.

Achievement in Teaching Awards Presented

Dr. Philip Hicks is shown with the 2003-2004 recipients of the university's Teaching Awards. Margie Tate, Dept. of Environmental Studies, was the recipient of the Technical Teaching Award; and Dr. Glenn Stratton, Dept. of Environmental Studies, was the recipient of the Faculty Teaching Award. The announcement of names during the Convocation ceremony met with enthusiastic response from the graduating class emphasizing the dedication that both have played towards NSAC's reputation as a superior institution of higher learning.

NSAC Internationalization Award Presented

Dr. Philip Hicks is shown with the 2004 recipient of the College's Internationalization Award, Dr. Norman Goodyear. Dr. Goodyear is an Associate Professor with the Department of Plant and Animal Sciences. Also on hand at the time of presentation was Dr. Dian Patterson, Dean of Internationalization.

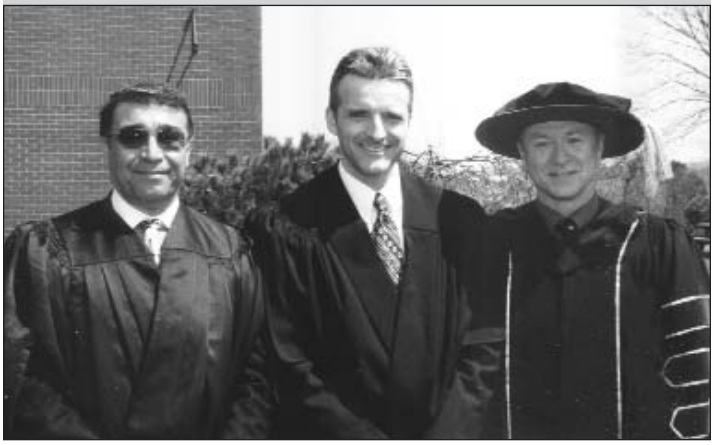
Governor General's Medal Winners

Dr. Philip Hicks is shown with the 2004 Governor General's Medals recipients. Recipient of the Bronze Governor General's Medal was Natasha Daley, Antigonish, NS, an Animal Health Technology program graduate; Shawn Llewellyn, Coldbrook, NS, a B.Sc.(Agr.) graduate, Animal Science option, received the Silver Governor General's Medal; and Iain Caldwell, Truro, NS (far right), a graduate from the M.Sc. program, received the Gold Governor General's Medal.

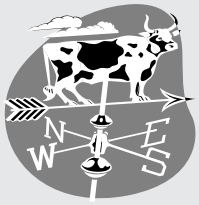
Dr. Tom Traves, Honourary Doctorate, NS Minister of Agriculture & Fisheries and Dr. Hicks

Dr. Tom Traves, President and Vice-Chancellor, Dalhousie University (left), along with Hon. Chris d'Entremont, Minister, NS Dept. of Agriculture and Fisheries (far right), are shown offering congratulations to Dr. Shiv Prasher, Faculty Member with the Dept. of Agricultural and Environmental Sciences, McGill University, who was conferred an Honourary Doctorate at recent Convocation exercises at NSAC. Dr. Philip Hicks, President, NSAC, is also shown at time of photo.

Presentation of Research Award



The 2004 recipient of the NSAC Faculty Excellence in Research Award was Dr. Rob Gordon, Department of Engineering. Prof. Ali Madani (left), Chair of the Research Committee and Dr. Philip Hicks, President, NSAC, are shown offering congratulations.



Tentative Homecoming Schedule

October 15-16, 2004

Friday, October 15

5:00-7:00 pm	Registration
6:00 pm	Women's Varsity Soccer Game and BBQ
6:00-8:00 pm	Alumni Mixer and Reception
8:00 pm	Men's Varsity Soccer Game and BBQ

Saturday, October 16

8:00-9:30 am	Library Breakfast
10:00 am	5km Run
11:30 am-1:30 pm	Alumni Association Annual General Meeting
12:00 pm	Men's and Women's Volleyball Women's Soccer
2:00-3:00 pm	Campus Tours
2:00 pm	Men's Basketball
3:00 pm	Men's Soccer
4:00 pm	Women's Basketball
7:00 pm	Casino Night
9:00 pm	Casino Auction

Please visit **www.nsac.ns.ca/alumni/schedule2004.htm** *for event and schedule updates!*

Honourary Doctorate Awarded at 2004 NSAC Convocation

Dr. Shiv Prasher was awarded an Honourary Doctorate of Laws by Dalhousie University at NSAC's 99th Convocation ceremony on Friday, May 7.

Dr. Shiv Prasher, Faculty Member with the Dept. of Agricultural and Environmental Sciences, McGill University, was presented with an Honourary Doctorate at recent Convocation exercises at NSAC. (Shown here with President Philip Hicks)

"Dr. Prasher has made an immense contribution to our knowledge of soil and water environments in particular, and agricultural and biological engineering in general," said Dr. Philip Hicks, President of NSAC. "NSAC also places a priority on soil, water and environmental issues through our research activities and academic programs. Dr. Prasher has integrated many areas of science in his research, including computer modeling, mathematics and engineering. He is truly a valuable asset to the agricultural sector in Canada and stands as a shining example of how science and agriculture are inextricably linked."

Dr. Prasher has established a strong research program in soil and water engineering with a primary focus on farm pollution control practices, pesticide fate and transport in soils, the use of artificial intelligence in soil hydrology, and the design and operation of drainage/sub-irrigation design. Dr. Prasher's research has vastly improved our understanding of water, nutrient and pesticide movement in soil-water-crop systems and it will play an important role in long-term agricultural policy and production practices.

Dr. Prasher has established a strong research program in soil and water engineering with a primary focus on farm pollution control practices, pesticide fate and transport in soils, the use of artificial intelligence in soil hydrology, and the design and operation of drainage/sub-irrigation design.

Computer modeling and agriculture may, at first blush, appear to be strange bedfellows but Dr. Prasher makes a pretty convincing case. His research is helping to minimize pollution from farming operations while allowing farmers to remain economically competitive. And his success has been due to his early interest in computer modeling.

"My Master's thesis dealt with computer modeling of groundwater flow. I became very intrigued by how a set of partial differential equations can simulate natural hydrologic processes." Computer modeling was also Dr. Prasher's big break after immigrating to Canada since it helped him land a job at UBC.

Dr. Prasher's research has been to develop Best Management Practices for farmers that meet their environmental obligations without requiring farmers to change their farming practices in any significant way. He has been working on the development of on-farm pollution control systems that will minimize the loss of agro-chemicals into the environment.

"I strongly believe that while, on one hand, we must look into different ways of making all agricultural activities sustainable, we also need to take into account the overall needs of our farmers so that they can remain competitive and profitable." This has been the driver for Dr. Prasher's research.

Dr. Prasher sees a growing need for agricultural scientists in his area of research. "The solution to these environmental issues is going to require very high-tech knowledge and training." According to Dr. Prasher, agricultural scientists can integrate geographical information systems (GISs), computer modeling, analysis of optical and radar data from satellites and other sensors, computer vision methods, and machine learning technologies into their work. "This is all Ôcool' stuff and mastering it is going to be very rewarding and challenging."

Dr. Prasher grew up in India. Following studies at Punjab Agricultural University and the University of British Columbia, he began working at McGill University, where he continues his work today. He is currently in the Faculty of Agricultural and Environmental Sciences as the James McGill Professor of Bioresource Engineering. He lives in Montreal with his wife and has two grown daughters.

Former Principal Honoured by AIC

On April 16, Dr. Garth Coffin, PAg, former Principal of NSAC, was recognized as a Fellow of the Agricultural Institute of Canada (AIC) for his distinguished career in agricultural education, research, policy development and university administration. The award was given at AIC's annual meeting, held in Truro on April 16th.

Dr. Garth Coffin with Dr. David Chanasyk, Past President, AIC Board of Directors

Dr. Coffin was nominated by the Nova Scotia Institute of Agrologists. According to Merridy Rankin, past president of NSIA,"Garth has shown himself to be a man of principle and integrity, and he is supportive of his chosen profession and the communities in which he lives. He is a true professional."

Says Dr. Coffin of the honour,"It is always a great honour to be recognized by your peers for your contributions to the profession along the way," says Dr. Coffin."Becoming a Fellow of the Agricultural Institute of Canada means receiving the highest award of the national body representing all fields of agrology."

During his tenure, student scholarships and the research capacity of NSAC grew significantly, as did its international activity

A strong educational background is the foundation of Dr. Coffin's continued success in agriculture. A native of Mount Stewart, Prince Edward Island, Dr. Coffin graduated from the Nova Scotia Agricultural College (NSAC) in 1960 with the Governor General's Silver Medal and then completed his studies at Macdonald College of McGill University in 1960, earning his B.Sc. (Agr) in Agricultural Economics in 1962. After gaining some instructional experience, he continued his studies at the University of Connecticut, earning a Masters degree in Agricultural Economics in 1967. He was subsequently elected to membership in Gamma Sigma Delta, National Honors Society of Agriculture. Garth remained at the university as research assistant until the completion of his Ph.D. in 1970.

Dr. Coffin's education created a lifelong interest in educating others. Following graduation from McGill, Dr. Coffin returned to PEI as an agricultural instructor at Prince of Wales College. In 1979, Garth became Associate Professor and Chairman of the Department of Agricultural Economics at the Macdonald Campus of McGill University. He would later become Associate Dean (Research) and, in 1995, was appointed Acting Dean, Faculty of Agricultural and Environmental Sciences. During his 17 years with McGill University, Garth supervised 13 graduate students, was elected President of the Canadian Agricultural Economics and Farm Management Society (CAFMS) and was named a Fellow of the CAFMS in 1992.

Dr. Coffin's effects did not stop at the university steps. He was active in research and policy development, as Director of Economic Research and Secretary to the Canadian Livestock Feed Board in Montreal, Quebec, a position he held until 1979. During that time, his analysis was the basis for wide-reaching policy decisions of the federal government affecting the feed grain industry. He has authored or co-authored more than 66 scientific papers and information articles. His influence on national agricultural policy is widely recognized.

Yet, his career in academics would continue in Nova Scotia. Dr. Coffin returned to the Maritimes in 1997 as Principal of the Nova Scotia Agricultural College (NSAC). Under his direction, the NSAC took important steps in creating the school's first fully staffed development office and the first independent advisory board. During his tenure, student scholarships and the research capacity of NSAC grew significantly, as did its international activity.

Dr. Coffin has always been active in promoting his chosen profession. As a long time member of l'Ordre des agronomes de Québec and the Nova Scotia Institute of Agrologists, Dr. Coffin encouraged professionalism and promoted the profession among those working in the field. He served nationally as AIC President-Elect in 2000 and led AIC through a period of renewal as AIC President from 2001 - 2002.

"Those of us who have received a university education at considerable expense to the taxpayers are a privileged group," says Dr. Coffin."We have a social contract to apply our knowledge and skills in ways which benefit society. As a professional agrologist, I have always felt proud to be part of a group that exhibited such a strong dedication to ensuring an adequate food supply and enhancing the well-being of those involved in its production."

Since his retirement from NSAC in 2003, Dr. Coffin and his wife, Trinkie, continue to live in Truro and are active in their church and community.

ATHLETICS *in Review*

2004 Varsity Sports Summary

ATHLETES OF THE YEAR

Jenna Tait, Dr. Hicks, Nick Graham

K. S. Marchant Award

K.S. Marchant Award: Matt James, Ken Marchant, Emily Fraser

Women's Rugby

The Rams participated in the newly formed college/university league. With six teams participating, the Rams finished in 4th spot and met the tough UPEI Panthers in the semi-final. Although defeated, the Rams improved greatly over the year, cutting the deficit against UPEI in half from league play.

Men's Rugby

The Blue and Gold participated in the NSRU Second Division for Colleges and Universities. The Rams held their own against all teams, before losing the semi-final play-off.

Women's Soccer

The women had a difficult season, finishing in last place in the six-team league. After an opening game tie against Atlantic Baptist University there were nine losses in a row and the Rams finished out of the play-offs.

Men's Soccer

The men finished the year with one win, one tie, and six losses. Their 4th place finish pitted them against undefeated University Kings College in the league semi-finals where they were eliminated 2-0.

Women's Basketball

The women finished in 4th place in the nine-team league with a 12-12 won/loss record. After an injury-plagued last month of the schedule, they lost to UNBSJ in the quarter-final of the ACAA Championships to end their year.

Men's Basketball

The men finished 6th in league play with a 9-15 won/loss record, making the play-offs, but losing to UNBSJ in the quarter-final of the ACAA Championships.

2003-2004 Athletic Awards

Outstanding Athlete Awards

ATHLETES OF THE YEAR

Female: Jenna Tait, Truro, NS
Male: Nick Graham, Upper Stewiacke, NS

KS Marchant Award

Technical: Matt James ('93), Summerfield, NB
Degree: Emily Fraser ('95), Dartmouth, NS

Hustle Award

Basketball (m)	Nick Bokma
Basketball (w)	Sam Leger
Rugby (m)	Tyler Campbell
Rugby (w)	Holly McLean
Soccer (m)	Kurtis Langille
Soccer (w)	Jennie Pryor
Woodsmen (m)	Scott Read
Woodsmen (w)	Nicole Russell
Club Volleyball (w)	Sara Butt

MIP Award

Basketball (m)	Nick Marchand
Basketball (w)	Jill Isenor
Rugby (m)	Leigh Milne
Rugby (w)	Serena Doucet
Soccer (m)	Ryan Riordon
Soccer (w)	Kristin Joudrey
Woodsmen (m)	Mario Bourque
Woodsmen (w)	Sah MacPherson
Club Volleyball (w)	Laurara Hoskins

Rookie Award

Basketball (m)	Billy McNutt
Basketball (w)	Lindsay Tozer
Rugby (m)	Kyle Kersten
Rugby (w)	Meghan Miller
Soccer (m)	Corey Henwood
Soccer (w)	Jess Weir
Woodsmen (m)	Mario Bourque
Woodsmen (w)	Diana Murphy

NSAC All Academic Athletes

(Varsity athletes with an Honours Average - first semester)

Rugby

Stephanie Hall
Amanda Estabrooks
Steve Harvey
Emily Durling

Woodsmen

Pam Bailey
Logan Beaton
Murray Gillies
Brent Jackson
Sarah MacPherson
Scott Read
Cornelia van den Hoek
Matt James

Basketball

Nick Marchand
Mike Ackerley
Adrien van Dyk
Jenna Tait
Kelly McNally
Jillian Tozer

Soccer

Judson Archibald
Nick Bokma & B'ball
Ashley Harding
Cory Henwood
Richard Jacobs
Kurtis Langille
Joyo Njaman
Donny Ricardo
Ryan Riodon
Vanessa Bosse
Sara Butt
Allison Denman
Emily Fraser
Kristin Joudrey
Sam Leger
Tara Lewis
Denyese MacDonald
Holly Munroe
Catherine Pal
Jennie Pryor
Sarah Sine

ACAA All-Conference

Basketball

Billy McNutt & ACAA Rookie of the Year
Jenna Tait
Lindsay Tozer

Soccer

Nick Bokma
Sarah Sine

CCAA Academic All Canadians

Nick Bokma - Soccer
Sarah Sine - Soccer
Jenna Tait - Basketball

Canadian Intercollegiate Lumberjacking Association (CILA)

STIHL Timbersports Challenge Winner

Nick Graham

CILA All Canadians

Scott Read
Heather Fulton

4th Year Award

Nick Graham - Woodsmen,Upper Stewiacke, NS
Scott Read - Woodsmen, Amherst, NS
Jenna Tait - Basketball, Truro, NS
Sarah Sine - Soccer , Canning, NS
Shane Sutherland - Soccer, Stewiacke, NS

MVP Award

Basketball (m)
Darren Marlborough, Upper Rawdon, NS

Basketball (w)
Jenna Tait, Truro, NS

Rugby (m)
Gerry Russell, Coldbrook, NS

Rugby (w)
Amy Higgins, Quispamsis, NB

Soccer (m)
Blair Cameron,Dartmouth , NS

Soccer (w)
Sarah Sine, Canning, NS

Woodsmen (m)
Nick Graham, Upper Stewiacke, NS

Woodsmen (w)
Heather Fulton, Stewiacke, NS

Club Volleyball (w)
Corrina Phillips, Brookfield, NS
Mavis Poirier, Bloomfield, PEI

Academic All-Canadians

Academic All-Canadians: Sarah Sine, Jenna Tait, Nick Bokma

Women's Volleyball

Due to the less than adequate number of volleyball student-athletes to maintain varsity status, women's volleyball operated under club status this year. They worked diligently on their skills and team play, and participated in three tournaments. The women will re-enter ACAA play in 2004-2005.

Men's Volleyball

Again, because of an inadequate number of players, the men's program took a year's leave of absence from the ACAA. Team status will be re-evaluated in September 2004.

Woodsmen

Placings	Women's A	Women's B	Men's A	Men's B
UNB	2	3	2	9
SSFC	2	6	5	9
MAC	1	4	5	7
NSAC	2	3	1	5

Alumni Directory *continued from page 11*

What happens if I don't order a directory now, but change my mind later?

We have arranged to print as many directories as are ordered before we go to press. So, if you do change your mind prior to publication, you can call Harris' Customer Service Department at 1-800-877-6554.

What forms of payment will be accepted for the purchase of a directory?

The directory may be paid for by major credit card or cheque. Payment(s) may be made by credit card at the time of order or by cheque upon receipt of the invoice(s). We also offer installment payment plans, allowing alumni to pay a portion now and the rest later.

What if I decide I want to cancel the order I have placed?

Orders for the directory may be canceled by simply writing the word "Cancel" on the invoice and returning it to Harris or by calling the Harris Customer Service Department at 1-800-877-6554. Be sure to provide the account number when canceling.

What if I have already received the directory and want to *return it?*

Call the Harris Customer Service Department at 1-800-877-6554.

Heritage Contest *continued from page 5*

NSAC. Here are some more details on this exciting Centennial initiative:

Contest Committee: Dale Ells and Ruth Grant. The decisions of the Contest Committee will be final on all matters.

Contest Questions: 100 questions of multiple choice type will be issued as a series of five sets, each set with 20 questions. The first set of questions will be launched on October 16 during Alumni Weekend.

The groups of contest questions will be posted on the NSAC webpage and offered as print copies in the MacRae Library, Student Services and various offices on campus.

Completed sets of the questionnaires can be submitted until the end of January. Each contestant must complete the information required on the questionnaire forms.

Reference Material: The MacRae Library will establish a reserve reference shelf containing helpful materials including: *Shaped Through Service* by Dale Ells, back issues of *NSAC Post*, back issues of *Agricola News*, and several years of *Report of the Principal.*

Class of 1964

BENTLEY, Robert K.
Looking forward to renewing acquaintances in October.

Class of 1984

POTHIER, Janet (Blayney)
I am the Family Services Coordinator at the Shearwater Military Family Resource Centre in Dartmouth. After graduating from NSAC in 1984 I married and had two children, my husband joined the military and life has just happened from there! I got my Early Childhood Education Diploma in 1998 and am currently studying Social Work at Dalhousie University. My children are now 19 and 17 years old — the oldest one just finished his first year at St. Mary's University! Life is good — drastic career change but I have truly found my niche so to speak— have two wonderful Brittany's — a male and a female who keep us busy walking them and vacuuming up hair! I live in Eastern Passage with my husband and two children.

Class of 1993

PORTER, Jennifer (Picketts)
Alan (1998) and I had a new baby almost a year ago and have not yet announced his arrival. Timothy Donald Porter was born March 23, 2003, weighing 9lbs 10oz. With Timothy and his siblings, Ella, Ryan and Nathalie, there will be lots of helpers to milk the cows at our Fort Belcher Farm.

Class of 1996

CROWE, Roger
Hello to all Class of 1996 Grads! I am finishing my B. Ed. (Secondary) at MSVU. I married Taunya Pynn, from Truro, on July 26, 2003.

LUNN, Yvette (Gardiner)
Married December 21, 2002. Gained a nine year-old son from the marriage. Built a home in 2003, expecting a baby in September 2004.

Class of 2000

MILLER, Sherry
Hello AHT Grads of 2000. After a short stay in BC, I am now a full-time RVT for Fundy Vets in Truro. Been here four years. Still learning lots and saving up to pursue a Wildlife career. All the best!

WATTERS, Danielle
Hello, I graduated from NSAC in 2000 (from the AHT program). I just graduated from SMU with my BSc. In Biology. I now work at the Metro Animal Emergency Clinic in Dartmouth.

Class of 2002

BARRETT, Ryan
Also working as secretary of the Canadian Milking Shorthorn Society.

INNERST, Angela (Taylor)
Hello to the grads of 2002. I am still living in Wisconsin and have recently gotten married. I thought I would move down here for a few years but it has turned out to be more. I miss Nova Scotia and hope to someday return but for now I will be an American. If there is someone else in this area, let me know. To all my old friends, it was nice to see some of you at the wedding and to others, write so we can stay in touch.

SPEER, Karen
Matthew and I are getting married this summer and going to be working in potatoes for a while.

Class of 2004

SMITH, Jeremy A.
Discovering infinitude.

STONE, Peter K.
I was a city guy with no knowledge or experience with animals, and going to the NSAC opened my eyes to a part of society and industry that I may not have been exposed to if I went to a more traditional university. I enjoyed my time at NSAC.

In Memory of Rick Russell

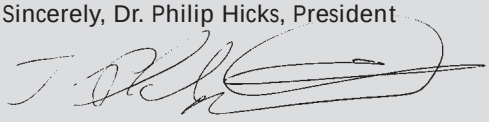
Our university is mourning the passing of Rick Russell. Rick passed away on July 4th after a battle with cancer. He was 45.

Rick was an alumnus of our school and began working for us right after his graduation. For the next 20 years he served as Swine Herdsman and, for the past four years, managed the Fur Research Unit.

Rick also was the driving force behind our Varsity Woodsmen Program. He competed for NSAC and then gave freely of his time for the next 24 years, acting as coach and mentor. While he coached the sport, he also developed student-athletes to be team-centred, contributing members of their communities. He was also famous for his barbecues, and actually owned his own company called "Barbecue Buddies".

I understand from people who knew Rick best that he was a fun-loving and generous man. The parties he held in his early years at NSAC are legendary and his relationship with his woodsmen is even more so. If a man is judged by the people who know and love him, by the sheer number of lives he has touched, Rick will be judged very favourably indeed.

Sincerely, Dr. Philip Hicks, President



In Memoriam

Gerald Johnstone '51

William McKay '69

Gordon Crowe '49

Arvard Ross Main '40

Donald Martin '58

Douglas Thorne, '37

Bill Whitman '48

Gerald Finley '32

Look Who's Talking!

Sandra Cantle, B.Sc., M.Sc.

Sandra Cantle obtained her B. Sc. in Agricultural Chemistry at NSAC in 2001. She has recently defended her M. Sc. degree in Plant Molecular Biology under the supervision of Dr. Gefu Wang-Pruski, also at NSAC. Her M.Sc. thesis was a study of the gene structure and expression of cinnamic acid 4-hydroxylase and its relationship to after-cooking darkening in potato. Sandra has presented her research findings at several national and international conferences, and enjoys the opportunity to share with others her enthusiasm and knowledge about genetics and biotechnology. At the 87th Annual Meeting of the Potato Association of America in Spokane, Washington, her presentation won a Graduate Student Presentation Award. Currently, Sandra is working as a lab manager/research assistant in the Potato Molecular Biology and Genomics Laboratory at NSAC, while also looking ahead to future international opportunities in the fields of molecular biology or forensic science.

1. Can you share your thoughts on the social context of research?

As most graduate students would agree, the social context of research is rarely given a second thought during a time when there are field research plots to be managed, multiple experiments being conducted in the lab, and the ultimate goal of writing an interesting and defendable thesis. Research may sometimes seem far removed from the public eye but in the end it's the public that will be impacted by the development of a new technology. The public's perception of research differs depending on the specific goal or objective. For example, many people are against the use of genetic modified foods and many countries are attempting to ban cultivation of genetically modified crops. However, if genetic modification were used to produce an antibiotic that would save countless lives, the number of opponents would drop considerable. I feel most research is conducted for the benefit of society and the majority of researchers are just striving to further our understanding of the world around us.

2. To whom should researchers be accountable?

As costs of doing research escalate, a source of funding is necessary in order to finance research programs. Thus, scientists are confined to specific research objectives set out by the funding agency, and usually don't have the freedom to explore topics for pure interest sake. It would seem that scientists should first be accountable to the public as they are the beneficiaries of the research and on mass decide whether this research is acceptable. However, this may not always be the case as researchers may be first accountable to the source of research funding, rather than society.

3. Is dealing with the social context of research a slippery slope for the long-term management of research programs? That is, where is that line in the sand researchers (and the public) cannot cross?

I don't see it as being more difficult to deal with the impact on society during long-term research programs. There will always be controversy when it comes to types and methods of research. I believe that as long as scientists feel their research further contributions to knowledge in that field, then there is no reason to place a limit it. When the research is completed, it is then in the hands of society to recognize the value of the research and promote the product or service developed.

4. Can you talk about the nature of your own research in the context of social accountability?

The research for my M. Sc. thesis involved studying the structure and expression of a gene that has a potential relationship to after-cooking darkening, an undesirable quality trait in potato. Currently, the French fry industry uses methods to prevent this darkening which leads to increased production costs. The future implication of this research is to assist in generating better potato varieties, which in turn will benefit the industry as well as consumers. This type of research (and any other that involves genetic modification) has recently been scrutinized by society. However, I believe that this research has definite benefits and that in order for the public to make decision regarding the future of this type of research, they must be informed.

5. Is understanding the social context of research a matter of maturity and life-experience or can it be taught to others in a meaningful way?

As a graduate student and relative newcomer to research, I feel that understanding the social context of research is something that is developed over time. I'm not sure if a specific course on the social implications of research would be necessary but teaching students about the ethics of research and 'good vs. bad science' would allow students to develop their own opinions when it comes to understanding the relationship between research and society.

6. How can researchers/educators convey the importance of the social context of research to students who are looking for a science education?

I think that students are taught early on about how science/research affects society. In particular this is demonstrated at the regional and national science fairs, where young students aim to solve a problem that has impacted society through scientific experimentation. I feel that students enrolled in science classes understand to some degree that science impacts society; that level of understanding is heightened with increased exposure to science through education.

Continued fon page 18

...lost trails

Name	Grad Year	City
Vincent Francis	1939	
Robert George Muggah	1941	Sydney
Welbourne MacDonald	1960	Dartmouth
Elmer White	1964	Reserve
Robert E Melanson	1974	Brookfield
Kimberly Terrance Briggs	1974	Nashwaaksis
Robert G Horton	1974	Great Village
Vincent B Harbers	1974	Wolfville
Charles F R Jacob	1975	Hillgrove
Shari Dasa Parkhill	1976	Hampton
Thomas Gregory Riordan	1976	Bathurst
Roger Perry Freeman	1977	St. Paul
Robert J Arnott	1977	Woodstock
Karen A.Cheverie-Bergeron	1978	Ottawa
Paul Ian Gaunce	1978	Bloomfield Station
Pauline Christine Reome	1978	Purcell's Cove
Kevin John MacKinnon	1979	Summerside
John Gerard Chisholm	1979	Shelburne
Donald T. MacDonald	1979	Milford Station
Paul Alexander McIssac	1979	Charlottetown
Nick Duivenvoorden	1979	Jacquet River
Scott Arthur Putnam	1980	Debert
Andrew Bruce Clark	1980	St John
Linda Ruth St George	1981	Lethbridge
Dawn Hughes-Bissonnette	1981	Shelburne
Charles Rene Surette	1982	Truro
Mary A Burzynski	1983	Ottawa
Robert Leslie Chambers	1984	Elora
Dawn M M Holt	1984	Great Village
Kimberly Anne Allaby	1985	St John
Mary M Mahoney	1986	Halifax
J David Fraser	1986	Charlottetown
Gary A Killen	1987	Little Britain
Kelly N. Mary MacLellan	1987	Truro
Cecile Lepage	1987	Fredericton
Bernard J Scholten	1987	Saint John
M Conny Bishop	1988	Wolfville
Andre Gaudet	1988	Moncton
Peggy Dickie	1988	Dartmouth
Steven R Wright	1989	Bonshaw
Karen Anne Wheaton	1989	Canning
Mary Jane Whittaker	1990	Dartmouth
Lynda Lamb	1990	Stratahmore
Cynthia M Wright	1990	Bonshaw
Andrew W Myers	1991	Edgetts Landing
Robert Lister	1991	Harvey Station
Peter Bernard McCabe	1991	Charlottetown
Jane Schule	1992	New Glasgow
Cecile E Stewart	1993	Oxford
Darlene Andrews	1993	Truro
Patricia Johnson	1993	Hubbards
Kurt Douglas Bird	1994	Moncton
Tracy Denise Cassidy	1994	Bloomfield Station
Kristene Karel Tucker	1994	Coburg,
Patricia Ann Baird	1994	Thamesville
Doris Marie MacIntyre	1994	Lake Placid
Vicki Ann MacLeod	1994	Charlottetown
Gary Derek McCallum	1995	Quispamsis
Rory Gerard Chisholm	1995	Guelph
Leigh Andrew Matheson	1996	Scotsburn
Kimberly Charlene Peddle	1996	Truro
Benjamin Parsons	1997	Scotsburn
Melanie Nicole Lucas	1997	Elmsdale
Patricia Ann Campbell	1997	Truro
Kelly Dawn Foster	1997	Bath
Michelle Marie Sampson	1998	Frankville
Ryan Tayze MacKenzie	1998	Truro
Colleen Mary Allen	1998	Bayfield
Kenneth Richard Hough	1998	St. Thomas
Ellen Sue Levy	1999	Wolfville
Michelle Nicole Wall	2000	Truro
Tina Michelle MacKay	2000	Halifax
Michelle Marie Johnston	2000	Summerside
Patrick Marcelin Poirier	2000	Margaree Valley
Paige Alison Marryatt	2001	Bedford
Dorion A. W. Cudmore	2001	Wolfville
Ryan James Schofield	2001	Wolfville
Meliza Holly Morris	2001	Miramichi
Michael Terence Carlin	2001	Dartmouth
Cynthia Dawn Conrad	2001	Mill Cove
Lisa Ann Curry	2002	Truro
Duggan Gillis Kennedy	2002	Bible Hill
Derek Stuart Kennie	2003	Wolfville
Scott Edward Savoy	2004	Truro

Special Note: *We have gotten many calls from our alumni in response to our search for one of our members of the Class of '50, John Michael Mahoney. Many of you thought we were looking for John Francis Mahoney, also of the Class of '50, who is deceased. There were, in fact, two John Mahoneys in that class. So, we are still looking for John Michael Mahoney. His last known whereabouts was Gagetown, NB. If anyone knows where we can find him, please let us know!*

Don't let it slip away.
The Alumni Directory connects you with the "good old days."

The "good old days" aren't as far away as you think. You can reconnect with those good times with the upcoming Alumni Directory. Everything you need to locate old friends and former classmates will be in this exciting and invaluable resource. It will include personal, academic and business information about our graduates. And don't miss your opportunity to be included. Make sure to provide your updated information when contacted.

You will be receiving mail and phone calls from Harris on behalf of NSAC as they do research for this important project. We encourage you to provide them with the information they need to update our database. On page 11 is a list of Frequently Asked Questions about the directory project that may help you understand the process more clearly.