

# CSA Newsletter



Canadian Society of Agronomy

June 2001

## Links:

President's Message

From the CSA Office

Annual Business Meeting - Canadian Society of Agronomy

CSA Distinguished Agronomist-2001 Dr. Lyn Kannenberg

CSA Young Agronomist-2001

Dr. Hugh Beckie

CSA Young Agronomist-2001

Mr. Denis Pageau

CSA Fellow - 2001

Dr. Alan Hamill

CSA Fellow - 2001

Dr. David Hume

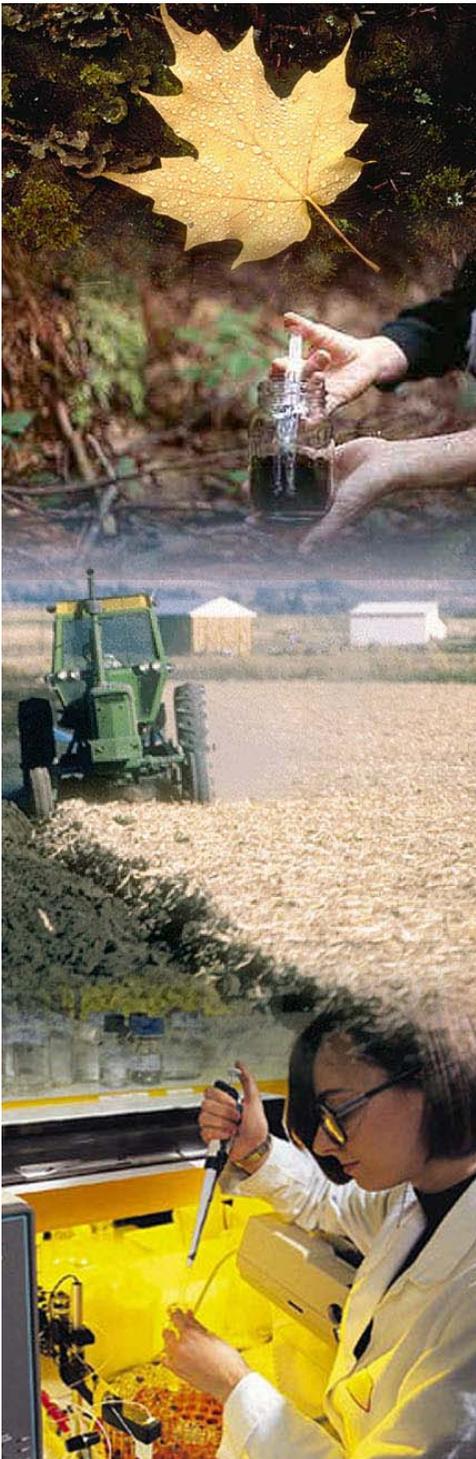
CSA Fellow - 2001

Dr. Gilles F. Belanger

Genetically Modified Organisms

Corporate Sponsors

Organization of the CSA 2000-2001



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## President's Message



The annual general meeting of the Canadian Society of Agronomy will be held beginning at 12:00 on July 10, in Guelph. The annual general meeting provides the CSA membership with the opportunity to work together to move our society in the direction that we believe it should go. This is the forum to bring forward new suggestions and ideas, to discuss progress and problems and to take an active role in the future of the CSA.

As I mentioned in the March, 2001 newsletter, discussions have been underway with the Canadian Society of Animal Science, the Canadian Society of Soil Science, the Canadian Society of Agrometeorology and the Canadian Society of Agronomy to determine the need for a national coalition of agricultural societies. The role of this group would be to serve as a united voice for agricultural sciences in Canada, beginning with the organization of technical meetings focussed on scientific agriculture. As our research strives to more clearly address not only production issues, but also societal concerns about environment and food safety, the benefits of working more closely with scientists in other disciplines becomes more apparent. Do you believe that a coalition of agricultural societies could improve multidisciplinary cooperation? Please bring your thoughts and ideas to our annual meeting. Those of you who are unable to attend can still have input. Send your comments with a colleague or email any of the executive so that your views can be expressed.

We have undertaken a number of new initiatives in the past several years. As Executive Director, Steve Sheppard has worked hard to increase the activities of the society. The web page has been enhanced, a regular emailing service has been started to provide members with timely information, and we have worked to improve the quarterly newsletters. A number of corporate sponsors have been recruited to support the society. An aggressive membership recruitment program was launched last fall, however our membership is still below what we would like to see. How do you feel about these changes? Do you have other suggestions for improvements? What do you want to see from your society to serve you better?

As I complete my two-year term, I would like to thank the membership for providing me with the opportunity to act as president of CSA. The United Nations has declared 2001 to be the International Year of the Volunteer. Working with people such as Gilles Belanger, David Major, Loraine Bailey, Lianne Dwyer and the rest of the CSA executive has given me a renewed appreciation for the contribution that dedicated volunteers can make to an organization. I'd like to encourage all members to become more active in the CSA. It is your energy and enthusiasm that will make our society strong.

*Cindy Grant  
President*

## From the CSA Office

Where are we?

We've been talking about changes. Its time to give you an update. Some things have moved well and others not as well as we hoped.

The corporate sponsorship program was very successful, with over \$6000 contributed. This has multiple benefits. Many of these corporations did not know about CSA in the past, and now they know. The sponsorships carried acknowledgements from CSA, and these included memberships for people named by the sponsor. These new members will enrich our membership both in numbers and perspective. Some sponsorships included a subscription to CJPS, and the enthusiasm for this journal was amazing. We sent an issue of CJSS as an sample, and at least one corporation bought 3 subscriptions in response. Again, a win-win situation. You will notice the sponsor names on banners at the conference, and in this newsletter. CSA is very pleased with this development.

The membership campaign paid off modestly. The final count is not in because there are always a few very late renewals and new members join throughout the year. I think we will be about 15% up. I was quite surprised that only a few people made use of the rebate program. In that, member could have half or all of their fees rebated if they brought in new members.

*Steve Sheppard*  
*Executive Director*  
[sheppards@ecomatters.com](mailto:sheppards@ecomatters.com)

## Annual Business Meeting Canadian Society of Agronomy

**Date:** July 10, 2001

**Time:** 12:00-14:00

**Place:** University of Guelph

1. Approval of Agenda
2. Introduction of CSA Executive
3. Approval of minutes of 2000 meeting
4. Business arising from the minutes
5. Reports
  - Treasurer (G. Bélanger)
  - President (C. Grant)
  - Executive Director (S. Sheppard)
  - Membership (P. Juskiw)
  - Newsletter (S. Sheppard)
  - CJPS (P. Hicklenton)
  - Awards (A. Johnston)
  - Pest management scholarship (J. Ivany)
  - AIC Research Foundation (L. Bailey)
  - Expert Committee on Plant and Microbial Gene Resources (G. Atlin)
  - Expert Comm. Cereal and Oilseeds (H. Voldeng)
  - Expert Comm. - Grain
  - Nomination (D. Major)
6. Joint meeting with CSAS and CSSS (C. Grant)
7. CSA 2002 meeting update
8. Appointment of auditors (D. Major)
9. Resolution

Adjourn

## **CSA Distinguished Agronomist - 2001      Dr. Lyn Kannenberg**

Dr. Lyn Kannenberg joined the Crop Science Department at the University of Guelph in 1965. From 1965 until 1996, he conducted a research program in corn breeding and genetics, with emphasis on development and improvement of breeding populations as sources of unique inbred lines for the short-season corn industry. He probably is best known for his HOPE (hierarchical, open-ended) breeding system, designed to introgress genetic diversity from around the world into short-season corn material. Over his 31-year career he developed or co-developed 103 inbred lines, 49 germplasm sources and 3 hybrids. He was also a supervisor of 30 graduate students, many of whom have gone on to stellar careers of their own.

Dr. Kannenberg contributed in many ways.

- He taught undergraduate courses and graduate courses,
- For 14 years, he was the Chair of the Crop Science Graduate Studies Committee,
- He was a member of the Ontario Corn Committee for 31 years, serving as the Chair of the Plant Breeders Subcommittee in 1995,
- He was a member of the North Central Corn Breeding Research Committee on Genetic Vulnerability from 1977 to the present,
- For 12 years he served as a member of the Expert Committee on Plant Gene Resources and also served as Chair of their Policy Subcommittee,
- He served for 9 years as a member of the Plant Breeders Committee of the Canadian Seed Growers Association, and
- He also is a past-President of the Guelph Chapter of Sigma Xi.

Lyn Kannenberg has been a long-term member of the Canadian Society of Agronomy. From 1986 to 1989, he was an Associate Editor of the Canadian Journal of Plant Science. He served as an Eastern Director for the Canadian Society of Agronomy in 1991 and 1992. He was a member of the CSA Honors and Awards Committee from 1988 until 1992.

Dr. Lyn Kannenberg is currently a Professor Emeritus in the Department of Plant Agriculture and has a number of collaborative research projects underway.

## **CSA Fellow - 2001      Dr. Alan Hamill**

Dr. Hamill joined AAFC in Harrow in 1971 on completion of his Ph.D. and has demonstrated outstanding service to agronomy as a weed scientist and administrator since that time. His accomplishments include:

- Excelling in his contribution to weed science extension with individual growers and grower groups, including his annual research report to growers, crop consultants and weed management specialists,
- His role in the development and registration of over 150 herbicide treatments for field and vegetable crops,
- His supervision of graduate students and graduate committee support with the University of Guelph and University of Western Ontario,
- His participation in the development of integrated weed management systems, and “weed specific herbicide rates”, has resulted in the reduction of herbicide rates below those currently recommended,
- His work with plant breeders, soil scientists and entomologists to integrate weed management systems into conservation farming and IPM systems,
- Dr. Hamill’s service to the pesticide regulatory agencies, on issues regarding registration, efficacy testing, minor use registration and pesticide safety,
- And finally, his leadership within AAFC, the national Expert Committee on Weeds, and the Weed Science Society of America.

Dr. Hamill’s stature in the weed science community is reflected in his receiving the Excellence in Weed Science Award, being named a Fellow in the Weed Science Society of America, Distinguished Agrologist with the OIA, and recently his election as Vice-President of the Weed Science Society of America in 2001.



## **CSA Young Agronomist - 2001      Dr. Hugh Beckie**

Dr. Hugh Beckie is a research scientist with AAFC in Saskatoon, and has worked with the Research Branch since receiving his Ph.D. in 1992. During his time at Melfort Research Farm he developed and transferred innovative technologies to improve fertilizer use and soil nutrients with a view to improve economics and environmental sustainability of cropping systems. In 1996, Dr. Beckie moved to Saskatoon and established a new program to address the herbicide resistance issue, including (i) develop rapid screening protocols for resistance; (ii) quantify influence of weed management on resistance; and (iii) monitor resistance across the prairie region. In 1999, he initiated a study to examine the current

status of commercial production of transgenic crops in Canada in relation to the way that transgenic crops can change weed communities.

Dr. Beckie is recognized through invitations to international and national scientific meetings, and regional industry meetings, working groups and advisory councils. These include the Canadian Expert Committee on Weeds and the Weed Science Society of America. As leader and/or collaborator, he has been involved in numerous cooperative research projects, many of which received external financial support from industry. He was appointed adjunct professor at University of Saskatchewan in 1996.



## **CSA Young Agronomist - 2001      Mr. Denis Pageau**

Mr. Pageau joined AAFC's Research farm in Normandin, Quebec in 1986. His main areas of activity have focused on the development of production systems for canola, field pea and the control of ergot in barley. He has also spent a considerable effort looking at the adaptation of a number of special crops in the Saguenay-Lac St Jean region.

Mr. Pageau's research and extension accomplishments include:

- Promoting the results of his research to the agricultural community at conferences, through publishing fact sheets and articles in popular farming magazines, involvement in numerous committees ranging from cultivar recommendations to the development of long term cropping options for that region.
- Research focused on the control of ergot in barley, boron deficiency in crops and the development of appropriate production systems for canola and field pea, in addition to the evaluation of the potential for new crops.
- Identification of the very important disease "Clubroot" in canola, following which he proceeded to identify germplasm that was resistant to that disease.
- Mr. Pageau also brought new ideas for the production of field pea in the region, an important component in the preparation of hog feed. He introduced semi-leafless lines and the concept of pre-harvest desiccation, leading to the successful expansion of field pea production.
- He has also been involved in research on weed management. Some of the research involved the management of quackgrass in alfalfa stands and the effects of quackgrass and wild oats on barley production. He has been heavily involved in leading many projects in collaboration with private industry.

Mr. Pageau has also spent a year in Luhotu in the Republic of Congo, formerly known as Zaire, developing pesticide application and handling programs, establishing reference collections of plants and insects, setting analytical instruments and laboratories as well as numerous meteorological stations.

## **CSA Fellow - 2001      Dr. David Hume**

Since joining the Crop Science Department at the University of Guelph in 1966, Dr. Hume has distinguished himself as an excellent educator, research scientist and administrator.

He has supervised 4 PhD and 25 MSc students, serving on the advisory committees of an additional 42 students. Dr. Hume teaches courses in World Food Systems, Protein and Oilseed Crops, Current Research Problems and Field Techniques, Physiology of Crop Yield, and Crop Science Research Projects.

Dr. Hume's research and extension accomplishments include:

- Development of a production package for soybeans in 1972. Subsequently, soybean production in Ontario has expanded over six-fold, and currently occupies more than 2 million acres.
- Identification of photoperiod-insensitive soybean varieties.
- Improvement of soybean inoculants, particularly the identification of strain 532C.
- Solving free fatty acid problems and other constraints to Ontario canola production.
- Documenting stress tolerance of newer Canadian soybean cultivars.
- Field measurements of soybean and white bean nitrogen fixation.
- Development of techniques for evaluating plant growth promotion by rhizobacteria.

Dr. Hume served on the Ontario Certified Crop Adviser Board of Directors and Exam Committee during the development of the program, and contributed extensively to the development of the program. He also contributed considerably to the University of Guelph's hosting of the Northeast Branch of the American Society of Agronomy.

Finally, Dr. Hume served as the Chair of the Department of Crop Science from 1993-98, and the Director of the Plant Program at the University of Guelph from 1998-99. His leadership strengths and administrative talent resulted in his appointment to his current position as Executive Director, U of Guelph OMAFRA Research Program.



## **CSA Fellow - 2001**

## **Dr. Gilles F. Belanger**

Dr Belanger joined AAFC's Research Branch as a research scientist in 1984 with the Fredericton Research Center in New Brunswick. In 1994, he was named adjunct professor in the department of Plant Science, Nova Scotia Agricultural College in Truro. Since 1996, he has been with AAFC in Sainte-Foy, Quebec.

Dr Belanger's research and extension accomplishments include:

- Supervision of one MSc student and has acted as external examiner for two MSc theses and three PhD theses. He has been involved directly on six PhD student committees both in Canada and France.
- Dr. Belanger has made presentations at more than 50 producer meetings in recent years and participated in numerous media events. He is responsible for the publication "Info-Fourrage", published three times a year by the Quebec forage Council dealing with technology transfer information for forage producers.
- He is also very active in numerous societies and member of many important committees and study groups, including forage councils and producers in Quebec and the Atlantic region.
- Dr. Belanger has served as secretary-treasurer for the Canadian Society of Agronomy and associate editor for the Canadian Journal of Plant Science. He has been an on-going reviewer of scientific manuscripts for various journals. He has also acted as reviewer for NSERC proposals and for the agriculture ministry of Quebec.
- Gilles has developed an international reputation for his research on forage species both in terms of science and project leadership. He has developed a new understanding of forage growth as a function of growing season and nitrogen fertilization. His research on forage growth coupled with its nutritive value has permitted a better understanding of how to optimize yield and quality at the same time. The findings have led to the development of collaborative studies on an international scale coordinated by the "Norwegian Crop Research Institute".
- Dr. Belanger's innovative research has permitted the development of diagnostic tools for determining whether or not the forage crops are deficient in N and P by taking into account the above ground biomass production and the changes in critical levels of N and P with changes in shoot biomass. The knowledge was derived from long-term forage plots.
- More recently, Dr Belanger has been able to show that carbon sequestration in the soil is not always a direct function of the amount of shoot biomass produced. These findings were based on long-term fertilized and unfertilized forage plots with N, P and K.

# Genetically Modified Organisms

Genetically modified organisms or GMOs as they are often called, are a topic of increasing interest to many Canadians. Yet it is hard to find a common point of view about whether they are good or bad. To a member of the public, there is a great deal of information which can be quite frightening. In this issue we are going to present some of the points raised against GMOs so that members are aware what is being said in the media and by special interest groups.

After looking at a number of web sites both Canadian and foreign, it became apparent that there are some common issues raised by groups about GMOs. Four of which are often cited, are raised by Greenpeace Canada on their web site and are included here. Due to space restrictions, they will not be presented in their entirety. Next newsletter we will present a response which we hope will provide information for our members when they are discussing GMOs with the public.

*Ingrid Ostick*

**From Greenpeace Canada**

[http://www.greenpeacecanada.org/e/feature\\_geconsumer/myths.html](http://www.greenpeacecanada.org/e/feature_geconsumer/myths.html)

**Thu, 11 May 2000.**

Greenpeace Canada presents the topic using four myths which they then explain.

## **MYTH #1: Genetic modification is no different than traditional breeding.**

FACT: Traditional breeding combines different elements of a narrow gene pool whose characteristics are similar and predictable. A potato can cross with a different strain of potato but, in 10,000 years of evolution, it has never crossed with a chicken.

Genetic modification shatters species boundaries forcing fish genes into a tomato or scorpion genes into corn.

Dr. Jane Rissler of the Union of Concerned Scientists says that "the capacity to combine genes from dramatically different organisms has, at least until recently, little known precedent in evolution, a wholly new gene may interact with the rest of the plant genome in more unpredictable ways." With this new ability to wipe out species boundaries, Rissler says, "Genetic modification...can add more genes with harmful potential than can traditional breeders."

## **MYTH #2: Genetically modified crops will help the environment and reduce herbicide use.**

FACT: A 1998 study of over 8,000 field trials, showed that herbicide use in genetically modified (GM) crops increased 2-5 times as compared to non-GM crops. In this study conducted by the University of Wisconsin and reviewed by Dr. Charles Benbrook, a former scientist with the US Department of Agriculture, herbicide use in GM crops was 10 times higher than in modern agricultural techniques like Integrated Weed Management (IWM).

Another negative impact of genetically modified crops will be the loss of a natural pesticide, *Bacillus thuringiensis* (Bt), that has been used responsibly by organic farmers for decades. Bt is now used widely by the biotechnology industry which inserts it into corn and potato plants. The widespread inclusion of the Bt gene in so many plants is expected to rapidly accelerate pest resistance and severely threaten the future of organic agriculture. Scientists say that with current practices, Bt will become useless within 10 years.

Organic agriculture is threatened on an even wider front from genetically engineered crops because many GM crops can pollinate over large distances. In the spring of 1999, the Organic Crop Improvement Association in Saskatchewan and Manitoba warned organic canola farmers that if they lived within five to eight miles of a GM canola crop, they could have problems receiving certification. This genetic contamination of traditional crops is another threat to the future of sustainable agriculture.

## **MYTH #3: The Government ensures that genetic engineering is safe for the environment and human health.**

FACT: No long-term independent testing is done by Health Canada, Environment Canada, Agriculture Canada or the Canadian Food Inspection Agency (CFIA) to assess the impact of genetic modification on the environment and human health.

The research to license a new genetically modified organism is paid for, and provided by, the producers

themselves.

There are many new studies on GMOs which expose environmental and health risks which were not known, or at least not admitted to, at the time of approval. A 1999 Cornell University study showed that GM crops can harm Monarch butterfly larvae. Unfortunately, this evidence was discovered years after the crops had been approved, despite calls at the time to study these very possibilities.

Current GM foods have avoided independent long-term health testing and slipped onto retail food store shelves because they are classified as "substantially equivalent" to their non-GM counterparts. Selected characteristics are compared between a GM product and a variety within the same species. If the two are "similar", the GM product is assumed to be no more dangerous than its non-GM counterpart.

There is no comprehensive definition for substantial equivalence. A team of scientists writing in the prestigious British journal Nature recently categorized "substantial equivalence" as a "pseudo-scientific concept." Groups such as the British Medical Association are concerned that the insertion of new genes into food may create unknown health impacts for humans.

#### **MYTH #4: Biotechnology will solve world hunger.**

FACT: When Monsanto claimed, in its 1998 advertising campaign, that "slowing its [GMO] acceptance is a luxury our hungry world cannot afford," they were marketing an image, not stating a fact.

Dr. Amartya Sen, who won the 1998 Nobel Economics Prize for 20 years of study into poverty and famine, notes that famine most often occurs in countries where there is a surplus of food.

In fact biotechnology companies are now intent on eliminating one of the most important practices used by farmers around the world to save costs: saving seeds from one year to the next.

In a bid to extract even more money from farmers, biotechnology companies do not allow farmers to save their GM seed.

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