

August 16, 2007

M. Jean Pronovost
Président
Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois
1150, Grande Allée Ouest, 1^{er} étage
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Dear M. Pronovost and Commissioners:

Thank you for the opportunity to participate in the CAAAQ's [la Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois] review of the future of agriculture and agri-food in Quebec.

CropLife Canada is the trade association representing the developers, manufacturers and distributors of plant science innovations – pest control products and plant biotechnology – for use in agriculture, urban and public health settings. CropLife Canada's mission is to support innovative and sustainable agriculture in Canada, in cooperation with others, by building trust and appreciation for plant science innovations. A list of CropLife Canada's member companies is enclosed for your reference.

In looking at how we could participate in this review, CropLife Canada members and our GrowCanada® partners discovered that we share optimism about the future of agriculture and the opportunities for innovation.

We recognized that the future of agriculture in Quebec and Canada requires partnership with others in the agri-food chain that collectively will advance innovation in this important economic sector. So we reached out to others in the agri-food industry and formed the GrowCanada® Partnership.

In addition to CropLife Canada there are nine allied stakeholder organizations that have lent their name in support of the document and the vision it has for the future of agriculture. They are the: Grain Growers of Canada, Canadian Federation of Agriculture, Canadian Canola Growers Association, Canola Council of Canada, Pulse Canada, Canadian Horticultural Council, Canadian Seed Trade Association, BIOTECanada and Canadian Renewable Fuels Association.

While production agriculture has endured major challenges in the past few years, the GrowCanada® partners are united in our belief that plant science innovation can be – at least in part – a solution to the challenges facing agriculture. We see this as an opportunity to articulate a vision that offers a value chain perspective with innovation at its core.

The end result is the publication -

“Innovation and Partnership in the Bio-Economy – A Discussion paper on the future of Agriculture”.

I have enclosed a copy of this discussion paper for your review.

So what is this collective vision for the future of agriculture?

We envision

a prosperous, sustainable, and competitive agriculture sector

in a flourishing bio-economy

built on leadership in scientific research, innovation and the adoption of new technologies

and on working together in “win: win: win: value chain strategic alliances,

to be a world leader in providing new products and new solutions

for agriculture, nutritional, health, energy, and environmental challenges facing consumers here in Canada, and in markets around the world,

so that all Canadians will enjoy the economic, environmental and social benefits of the bio-economy.

What does this vision – this opportunity – look like in real terms?

We believe that by the middle to latter half of the next decade, there is the potential for a \$500 billion global bio-economy driven by discovery and innovation in plant sciences. Contrast that estimate to the size of the global plant science industry today, estimated at approximately \$40 billion.

This means translating our substantial investment in R&D – some 7.5% of sales – into new directions for agriculture, including:

- Crops transforming into bio-fuels such as ethanol and bio-diesel
- Crops producing vaccines and pharmaceuticals.
- Crops delivering nutraceuticals and functional foods.
- Crops generating biodegradable plastics and other biomaterials.
- Crops that can better withstand heat and drought, disease, cold and frost, and that grow in saline soils.

Today's measure of success for agriculture is increases in yield. In the future, we can imagine the evolution of quite different benchmarks. For example:

- Doses of medicine per acre,
- Litres of bio-diesel produced or the number of kilometers per acre.
- Improved health and nutrition from our daily food intake

And all this innovation has positive impacts on research and development activity as well as downstream processing such as the building of new ethanol plants.

Why is this important for Quebec?

The agriculture and agri-food sector in Quebec is a cornerstone of the economy and a significant area of expertise. Quebec producers understand the need to be competitive and have already embraced innovations such as genetically modified crops. For instance, around 50% of corn and soybeans grown in Quebec are currently genetically modified. There is strong interest in other innovations including reduced risk pesticides, improving nutritional content of oilseed crops and others.

Quebec's current research and industrial infrastructure in biotechnology, pharmaceuticals and ongoing interest in bio-fuels through both bio-diesel and ethanol are other examples of where there is existing expertise that will lend itself to future innovations.

Through innovation, agriculture has the potential to intersect with many other sectors of the economy to provide valuable products. Quebec's strong agricultural sector and ability to integrate efforts throughout the agri-food value chain are strategic advantages in advancing this agenda.

Plant Science: Solutions for Society's Challenges

What all of these innovations represent are solutions. Solutions for some of the most daunting challenges facing our society in agriculture, nutrition, health care, energy, and the environment, in both developed and developing economies.

They also represent solutions for farmers' most daunting production challenges, as well as economic opportunity for farmers and for the entire agriculture value chain.

Partnerships: Moving Technology Forward

But while scientific innovation is a pivotal and key driver for the bio-economy of the future, it's not enough on its own: forging strategic alliances and partnerships throughout the value chain is pivotal to ensuring the sector's commercial success. It is also about government looking at regulation in new and different ways.

Implementing the "New" Agriculture – Turning Vision into Reality

How do we turn the vision into reality? Industry can play an important role by delivering on research and development and industrial infrastructure. However an equally important partner to make this happen is government. The recommendations to government in the paper are really the centerpiece of the entire document.

They fall into four broad categories:

1. Implement policy frameworks and regulation to *enable* innovation – while ensuring health & environmental safety.
 - Using a “smart” regulations approach
 - Accelerating the development of science based policies and regulation – as innovative companies we need a predictable set of rules
 - Communicating to the public to build confidence in the regulatory system
2. Help farmers adopt and adapt to innovation opportunities
 - Assisting with on-farm infrastructure changes – implementation of Quality Assurance programs, ISO certification
 - Safety programs: HACCP, Environmental Farm Plan, behind-the-farm gate stewardship
 - Providing training for handling new technologies through best management practices and environmental stewardship
 - Closing the pesticide technology gap with the U.S.
3. Promote market acceptance
 - Communicating technology’s contribution to agriculture and assisting with regulatory capacity building both at home and abroad.

Finally, one more recommendation, while in our GrowCanada® document we are referring to the federal department of Agriculture and Agri-Food Canada, this recommendation applies equally to Quebec’s Ministry of Agriculture, Fisheries and Food.

To help impress upon the public, the value chain stakeholders, and our global customers, that it is not business as usual in agriculture and to change the mindset from the “old” agriculture to the “new” agriculture, we recommend a name change to the department of agriculture.

4. Change the name from “Agriculture and Agri-food” to the department of “Agriculture, Food, and Bio-Resources”. This change – while symbolic - would help make clear the fact that we are entering an era of transformed agriculture.

Detailed Questions

The Commission has raised a number of very specific questions pertaining to the technology developed and distributed by CropLife Canada member companies. Representing the plant science industry, CropLife Canada welcomes the opportunity to address important concerns raised in the CAAAQ’s comprehensive discussion document. You will find in Appendix I some more detailed responses to these questions.

Conclusion

What’s in this new vision for Quebec and Canada?

It is about environmental sustainability and economic opportunity. It is about job growth, about increasing our productivity, about rural and regional economic diversification, about our international competitiveness, about a safe and secure food supply; and about prosperity for all.

Once again thank you for this opportunity and we look forward to continued dialogue regarding our industry's contribution to a robust agriculture industry in Quebec.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Lorne Hepworth'.

Lorne Hepworth
President, CropLife Canada

Enclosures:

List of CropLife Canada member companies

Innovation and Partnership in the Bio-Economy – 2nd Edition

Appendix I

Specific Questions and Responses

CropLife Canada has selected the following topics and questions from the comprehensive CAAAQ discussion document. Only those topics and questions of direct relevance to the plant science industry are addressed in this Appendix.

CropLife Canada welcomes the opportunity to engage in dialogue regarding the value and contribution our technologies make to modern agriculture. We also welcome the opportunity to respond to our critics, to offer industry's commitment to product stewardship that exceeds current regulatory requirements, and to assist consumers and public policy developers in making decisions based on science from trusted, global sources.

Food Requirements of the Population

This chapter defines changing needs of an aging population, consumer interests in health benefits from food, and interest in food quality and safety. In addition it addresses the growing world demand for food products, especially an increased global demand for protein.

Q: Is Quebec's agriculture and agri-food sector fully prepared to respond to present and future consumer needs?

A: Consumer choice is already well served through differing production methods such as conventional, biotechnology-based and organic agriculture. The upward trend in foods with health benefits is one that CropLife Canada members have been directing research toward. To date, new crops with improved health profiles such as canola, soy and flax as well as beans and other pulse crops are examples of how the industry is delivering crop options to meet consumer demand. Our research and development on replacements for trans fats is one example where consumer demand, public health input and government policy have resulted in new innovations.

CropLife Canada and our GrowCanada® partners are working together to identify, with input from food processors, upcoming food trends. As in the past, our efforts place a high priority on safety and stewardship of our products.

Q: How should Quebec respond to the dynamics of world trade in agriculture, and should the anticipated increase in world demand for animal protein be seen as an opportunity for Quebec's agri-food sector?

A: The CAAAQ discussion document acknowledges that Quebec and the rest of Canada will continue to be major exporters of food and agricultural products. This means that we have to take advantage of our expertise in agricultural production to meet global demands. CropLife Canada members provide growers with food and feed crop varieties as well as crop protection products that are increasing yields, using less water, are more disease and drought resistant and deliver health benefits for food animals raised for domestic and international consumption. Quebec corn and soybean growers have adopted genetically modified crop varieties to meet these demands. In turn, export markets are increasingly accepting genetically modified commodities and livestock raised on genetically modified feed.

The agronomic and nutritional benefits of genetically modified crops lend themselves well to the challenge of delivering high quality, safe and nutritious food ingredients and animal feed.

Agricultural Production

This chapter addresses the make-up of agricultural production in Quebec and observes that production is primarily focused on commodities. It notes that there is interest pursuing specialized or niche market production. The modernization of agriculture has been possible through the adoption of new technologies, but there is concern that some technologies may be met with fear and suspicion. The chapter also addresses collective marketing of agricultural products, and whether it can accommodate niche marketing.

Q: Do the current collective marketing mechanisms allow the agri-food industries to respond quickly and adequately to market needs in Quebec, Canada and abroad? Do they leave sufficient room for new products and niche products?

A: CropLife Canada supports grower choice in production systems (conventional, biotechnology-based and organic) to meet market opportunities. Partnership and dialogue with growers and the food industry (as well as the industrial products industry) will help to improve response times to market trends regardless of how products are ultimately marketed.

CropLife Canada and our member companies support federal and provincial government policies that enable co-existence of production systems (conventional, biotechnology-based and organic) as well as both niche and mass market commodities. Government policies must include:

- Realistic levels for adventitious (i.e. unintended) presence of GMOs in all crops.
- Support to growers and commodity distributors to put in place on-farm and supply chain infrastructure to accommodate specialized market needs
- Grower access to newer reduced risk pest control products through alignment with internationally recognized science-based regulatory thresholds and alignment of pesticide regulation with our major trading partners including the United States.
- Seek to eliminate non-tariff trade barriers by developing bi-lateral trade agreements with our export market partners to address technical barriers to trade (pesticide Maximum Residue Limits and market access for GM crops for example); and advocating for science-based regulations within international trade agreements and treaties.
- Assist with regulatory capacity building in potential export markets

Niche marketing opportunities such as organic production remain a very small percentage of total agricultural production. According to the Canadian Organic Growers Association, 2.7% of Quebec's production is organic with some 816 growers certified organic.

Distribution of Food Produce

This chapter focuses on the retail and HRI (hotel, restaurant and institution) distribution systems. It also raises questions regarding the range of food products, brand and private label products, and product labeling.

Q: What is the role of labeling and how far should it be taken? What information is essential for consumers? Should voluntary GMO labeling be made compulsory? How can the labeling burden imposed on processing and distribution companies be taken into account?

A: Health Canada and the Canadian Food Inspection Agency carry joint responsibility for labeling of food in Canada. CropLife Canada supports the government of Canada policy on GM labeling which is to:

- require mandatory labelling if there is a health or safety concern, i.e. from allergens or a significant nutrient or compositional change (as determined by Health Canada)
- ensure labelling is understandable, truthful and not misleading
- permit voluntary positive labelling on the condition that the claim is not misleading or deceptive and the claim itself is factual
- permit voluntary negative labelling on the condition that the claim is not misleading or deceptive and the claim itself is factual.

Study after study has concluded that genetically modified corn, canola and soybeans, the crops grown by Quebec farmers, pose no increased risk to human health. A report from the European Union concludes “the use of more precise technology and the greater regulatory scrutiny probably make them (GM crops) even safer than conventional plants and foods.”

Quebec’s farmers – just like their counterparts in other parts of the country – face a constant struggle to make a living, especially when competition from international (and often heavily subsidized) producers is factored in. Any new regulatory requirements – and the cost of complying with them – could have significant, detrimental impacts on their ability to stay in business. That’s why it’s essential that no unnecessary additions to their burden be imposed.

The same holds true with respect to the health of Quebec’s biotechnology sector overall. Any policy changes that do not add value as far as food safety is concerned and are negative to the sector could provide a disincentive to future investment in this important area of the economy.

The cost of labeling of GM products exclusively in Quebec were found to be significant when a study was conducted for MAPAQ and released in February 2007. Implementation costs (for corn and soybeans alone) were estimated at \$161,750,000 and recurring costs were estimated at \$28,371,000. The study made no attempt at assessing the impact of a Quebec-only labeling scheme on food exports, or on the impact of trade within the rest of Canada.

As consumers, we all want to make the right choices when feeding our families. Food labels should provide us with useful information contributing to health as we make our shopping choices. That’s why nutrition facts, ingredient listings and allergy alerts are all helpful.

Agriculture, Agri-food and the Environment

This chapter discusses the impacts that agriculture has on the environment – notably on water, soil, air, and biodiversity including the impact of pesticides on water quality and genetically-modified plants on insect populations (toxicity for insects and increased insect resistance) and the potential for herbicide resistant weeds.

Q: Which are the best agronomic practices, especially in connection with fertilization, soil conservation and pesticide use?

A: While there are many regulatory safeguards already in place on the pre-market assessment of pesticides, CropLife Canada has taken a leadership role in industry-led stewardship programs covering the entire life cycle of its members' products. We believe that there is no substitute for taking direct responsibility for the management of our products.

Through the internationally recognized program **stewardshipfirst**TM CropLife Canada supports the careful management of pesticides throughout the product life cycle. This program is currently short-listed for the U.K. based Agrow Award for Best Stewardship initiative and has gained recognition both domestically and internationally as a robust stewardship program.

StewardshipfirstTM promotes integrated pest management strategies, with the underlying principles that a crop protection product should be used only when necessary – **using the right tool, at the right time, in the right place, in the right way.**

StewardshipfirstTM includes training and certification programs for advisors to growers, distributors and the general public on the use of crop protection products in a safe, effective and environmentally responsible way. CropLife Canada supports a maximum residue limit (MRL) database that includes MRL tolerances for the U.S. This tool is available for growers planning to export their commodities.

Growers using pesticides are supported by Material Safety Data Sheets (MSDS) that provide safe handling information to protect users' and environmental health and safety. In addition, CropLife Canada and its members support grower education through the *Pesticide Safety Handbook: Handling Guidelines for Growers*.

Further efforts are being made to reduce risks through CropLife Canada's behind the farm gate initiatives in partnership with grower organizations. This **stewardshipfirst**TM program is aimed at addressing risk reduction, safe application, food safety, identity preservation, environmental sustainability and traceability.

Empty container and obsolete product management are two more elements of **stewardshipfirst**TM that have resulted in the collection of more than 64 million empty pesticide containers and the collection of over 821,000 kilograms of obsolete pesticides across Canada since their introduction.

For a complete report on CropLife Canada's stewardship initiatives, please consult our Stewardship Benchmarking Report (2006) at www.croplife.ca

Plant biotechnology delivers a number of benefits to agronomic practices that have resulted in improvements to the environment. Plants with improved resistance to insects, disease and performance in drought conditions are but a few of the recent benefits. In addition, herbicide tolerant

crops need fewer applications of pesticides and are often designed for direct seeding thus preserving topsoil and reducing soil erosion.

Q: What should be done to maintain and increase biodiversity on agricultural land?

A: Biodiversity is managed through a combination of industry and government efforts. For example, the Canadian Food Inspection Agency conducts environmental impact assessments on genetically modified crops before they are commercially marketed. Both government and academia have conducted a number of studies to assess the impacts of genetically modified plants on insect populations and on weeds, to date these results have shown no detrimental effects of the technology and in fact demonstrate improvement over conventional agriculture systems.

Through **stewardshipfirst**TM CropLife Canada members support integrated pest management. Our member companies also support maintaining seed bank collections, which helps to ensure the retention of biological diversity for future generations.

In addition, the use of agricultural technologies increases the productivity of land already cultivated, reduces the need to farm additional land and thus contributes to biodiversity conservation. Habitat destruction is one of the biggest challenges to biodiversity. The overall number of species is declining at a historically high rate as the world's population increases and land is converted for industrial, domestic or agricultural use. Without the use of crop protection and biotechnology products, more land would need to be cleared to grow food, destroying ecosystems.

Q: What do you think about the use of genetically modified plants in terms of the risks and benefits they represent?

A: As developers and distributors of genetically modified crops and seeds, CropLife Canada is clearly supportive of this technology. However, we encourage the CAAAQ to examine the annual reports prepared by the ISAAA (International Service for the Acquisition of Agri-biotech Applications) to gain a global perspective on how growers globally are adopting this technology. Go to www.isaaa.org for further information.

We would like to quote the ISAAA's report for 2006 that outlines the benefits of genetically modified crops. These include:

Herbicide Tolerant (HT) crops

- Increased management flexibility that comes from a combination of the ease of use associated with broad-spectrum, post-emergent herbicides like glyphosate and the increased or longer time window for spraying;
- Compared to conventional crops, where post-emergent herbicide application may result in 'knock-back' (some risk of crop damage from the herbicide); this problem is less likely to occur in GM HT crops;
- Facilitation of adoption of no/reduced tillage practices with resultant savings in time and equipment usage (see below for environmental benefits);
- Improved weed control has reduced harvesting costs - cleaner crops have resulted in reduced times for harvesting. It has also improved harvest quality and led to higher levels of quality price bonuses in some regions;
- Elimination of potential damage caused by soil-incorporated residual herbicides in follow-on crops.

Insect Resistant (IR) crops

- Production risk management/insurance purposes - taking away the worry of significant pest damage occurring;
- A 'convenience' benefit (less time spent on crop walking and/or applying insecticides);
- Savings in energy use - mainly associated with less spraying;
- Savings in machinery use (for spraying and possibly reduced harvesting times);
- Improved quality (e.g. lower levels of mycotoxins in GM IR maize);
- Improved health and safety for farmers and farm workers (from reduced handling and use of pesticides);
- Shorter growing season (e.g. for some cotton growers in India) which allows some farmers to plant a second crop in the same season. Also some Indian cotton growers have reported benefits for beekeepers as fewer bees are now lost to insecticide spraying.

Risk management is a priority through CropLife Canada's **stewardshipfirst™** program. Plant biotechnology initiatives include:

- Compliance management for confined field trials – This is a training program for researchers conducting confined management of field trials prior to commercialization. This program has trained researchers from both the public (government, academia) and private sectors.
- Best management practices guide for managing herbicide tolerant volunteers – this is a guide distributed to 60,000 growers throughout Canada that is supplemented by a series of training workshops on effective strategies for managing herbicide tolerant volunteers.

With significant benefits and ongoing vigilance toward risk management backed up by more than a decade of growing experience, genetically modified plants have generated benefits that are recognized by farmers around the world.

Currently 22 countries are planting biotechnology crops with over a 100 million hectares (250 million acres) annual planting. It is worth noting that six of these countries are in the EU and that of the 10.3 million farmers growing biotech crops, 90% or 9.3 million (up significantly from 7.7 million in 2005) were small, resource-poor farmers from developing countries whose increased income from biotech crops contributed to their poverty alleviation.

Health and Consumer Concerns

This chapter addresses concerns regarding food quality and safety, the impact of pesticides and GMOs on food safety, new technologies and trends including functional foods and nutraceuticals, and public health concerns.

Q: Are the standards used in the food inspection system, especially those that set pesticide residue levels, satisfactory?

A: CropLife Canada and its members consider safety our first priority. How do we know our products are safe? Because they are among the most heavily scrutinized and strictly regulated in the world – food from conventional and biotechnology-based agriculture including GM plants is safe, healthy and nutritious.

Food safety standards used by Health Canada are based on global science and take account of new, peer reviewed science in everyday decision-making. Canadian regulators confer with their counterparts in other industrialized countries resulting in robust safety standards.

Maximum residue limits and their levels are part of the health and safety equation. The Pest Management Regulatory Agency describes its process for establishing MRLs as follows:

A maximum residue limit (MRL) is the maximum concentration of a pesticide that may remain in or on a food at the farm gate when the pesticide is used according to registered label directions.

MRLs apply to residues on both food produced in Canada and food imported into Canada from other countries. These MRLs are currently established under the Food and Drug Regulations (FDR) of the Food and Drugs Act (FDA), only if Health Canada's Pest Management Regulatory Agency has determined that the consumption of the pesticide residues that could remain on the food as it is eaten will not pose an unacceptable health risk. Actual residues in food as it is eaten are usually much lower than the MRL.

Canada may choose to apply differing MRLs for a variety of reasons including dietary patterns and differing food intakes, the behaviour of pest control products in the environment, and the overall prevalence of certain pesticides. CropLife Canada encourages continued review of MRLs based on known science.

The discussion document raises questions regarding the impact of pesticide residues as well as repeating a claim made by the David Suzuki Foundation that Canada permits the use of 60 pesticides that have been eliminated, prohibited or withdrawn by other jurisdictions. This claim has been countered by Health Canada's Pest Management Regulatory Agency, which offers the following:

In the Suzuki Foundation report, 60 active ingredients are listed as prohibited in at least one OECD country, based on environmental or health concerns. The Canadian regulatory status of these 60 active ingredients is as follows:

- 49 are currently under re-evaluation;
- 4 were recently re-evaluated and found acceptable for continued registration;
- 2 were recently registered; and
- 5 are no longer registered in Canada, or will be phased out as a result of re-evaluation.

Amongst the active ingredients listed by the David Suzuki Foundation, and that are currently registered in Canada, all but 6 are part of the Health Canada's re-evaluation program. Under this program, pest control products that were registered before January 1, 1995, are being reviewed to determine if their use continues to be acceptable under current standards for health and environmental protection. While a special review is meant to target a specific issue, the reevaluation of an active ingredient examines all aspects of human health and environmental risk and is based on all available information including any concerns identified in an OECD country. Since a re-evaluation will address any issue that would be the focus of a special review and more, initiation of a special review in addition to their ongoing re-evaluation is not warranted for these active ingredients. Recent regulatory decisions have been made regarding the remaining six active ingredients from the David Suzuki Foundation list, based on internationally accepted approaches and protocols. Concerns identified in the OECD were taken into account when the Canadian registration or reevaluation decision was made.

It should be noted that, as mentioned above, concerns associated with a pesticide that are identified in other nations are taken into account when Canadian registration or re-evaluation decisions are made. Prohibition or withdrawal of a pesticide in a foreign country, however, does not necessarily equate to unacceptable risk in Canada. The regulatory and environmental conditions in Canada are inherently different from other nations. A pesticide could be prohibited in another nation based on legislation specific to that nation that does not apply to Canada, or based on an environmental risk that does not exist in Canada.

For further information on this issue, CropLife Canada recommends that CAAAQ consult with Health Canada's Pest Management Regulatory Agency.