



CANADIAN SEED TRADE ASSOCIATION
L'ASSOCIATION CANADIENNE DU COMMERCE DES SEMENCES

**Fostering Innovation in the Canadian Agriculture and Agri-Products Industry
A Partnership Between Industry and Regulators**

**Submission to
Carole Swan, President, Canadian Food Inspection Agency
By
The Canadian Seed Trade Association
October, 2007**

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About the Canadian Seed Sector

Every year over 1.2 million acres of pedigreed seed crops are produced in Canada by over 4,000 experienced seed growers. The seed industry on its own makes a substantial contribution to the Canadian economy, generating over \$800 million in sales annually, and in addition to the 4,000 growers, directly employing over 9,000 Canadians. The seed sector also makes a strong contribution to Canada's balance of trade, exporting about 25% of its production to over 70 countries. In 2006, exports of Canadian seed were valued at over \$243 million.

More importantly, seed is the foundation of Canada's agriculture and agri-products industries, driving improvements in productivity, agronomics, quality, and market opportunities for farmers and end users.

About the Canadian Seed Trade Association

CSTA's mission statement commits us to work with our value chain partners towards an environment that promotes innovation and benefits the entire value chain. We submit that the CFIA, as a regulator of the seed industry, also has a role in this partnership

The Canadian Seed Trade Association brings together about 140 member companies who are engaged in all aspects of seed research, production and marketing, both domestically and internationally. Our membership ranges from those who market garden seed and herbs to large western grain handlers; and from small family-run businesses to large multi-national corporations. CSTA members work with seeds from 50 principal crops, including grains, oilseeds, special crops, forage and turf grasses, flowers, vegetables and fruits.

CSTA's direction and strategy comes from its members, who have also developed the CSTA Mission Statement:

The Canadian Seed Trade Association (CSTA) is committed to fostering an environment conducive to researching, developing, distributing, and trading seed and associated technologies; with the goal of bettering the choices and successes of our members and their customers.

Our mission statement commits us to work with our value chain partners towards an environment that promotes innovation and benefits the entire value chain. We submit that the CFIA, as a regulator of the seed industry, also has a role in this partnership.

Private Sector Investment in Seed Innovation

Private seed companies will invest 56.1 million in research and development in 2007, almost doubling by 2012.

CSTA recently surveyed its members to determine the current and projected level of investment in plant research and development in Canada. The survey shows that our member companies are substantial investors in seed driven innovation.

In 2007 CSTA's member companies will invest \$56.1 million in research and development. That is 6% of the total retail sales of these companies, and 26% of the total operating budget. Most of that investment will be in research and development on canola, corn and soybeans.

Additionally, these companies expect to almost double their investment within 5 years to \$106.4 million. Once again, the bulk of that investment will be in canola, corn and soybeans, while the share of private sector investment held by other crops, including forages and cereals, continues to decline.

The table below shows the total investment and the share of the total by crop kind.

Annual Research Investment by Crop								
	1987		2001		2007		5 Year Projection	
	\$ million	% of Total	\$ million	% of Total	\$ million	% of Total	\$ million	% of Total
Canola	7.1	50	30.5	67.3	41.9	74.7	80.0	75.2
Soybeans	0.7	4.9	2.6	5.7	3.9	6.9	12.7	11.9
Corn	2.8	19.7	7.9	17.4	4.8	8.6	9.0	8.5
Cereals	1.5	10.6	2.3	5.1	3.3	5.9	2.7	2.5
Forages	0.3	2.1	0.8	1.8	0.5	0.9	0.5	0.5
Special Crops	0.1	0.7	0.4	0.9	0.1	0.2	0.1	0.1
Garden Seed	0.1	0.7	0	0	0	0	0	0
Other	1.6	11.3	0.8	1.8	1.6	2.8	1.4	1.3
TOTAL	14.2		45.3		56.1		106.4	

Source: CSTA member surveys

The private sector is focusing its investments in three crop kinds, canola, soybeans and corn. The share of private sector investment in cereal crops, special crops and forages is declining, and private sector investment in garden seed is non-existent. There are clear reasons for this disparity, and there are clear solutions that can be found in partnership with CFIA.

It is very clear from the table above, that the private sector is focusing its investments in three crop kinds, canola, soybeans and corn. The share of private sector investment in cereal crops, special crops and forages is declining, and private sector investment in garden seed is non-existent.

CSTA submits that there are clear reasons for this disparity. We also submit that there are steps that can be taken in partnership with CFIA as our primary regulator, to encourage increased private sector investment across Canadian crop kinds.

The Potential for Increased Prosperity

Plant science innovation has brought significant benefits to Canadian farmers, and end users. There is the potential to bring much more.

Research and development in plant science, both by the public and private sectors, has brought advances to farmers and end users. For example:

- Monsanto's Vistive™ soybeans virtually eliminate the need for hydrogenation, eliminating trans-fats in fried foods, baked goods and other processed products
- Bayer and Cargill's new high-performing, high-yielding canola varieties which produce oil that does not require hydrogenation
- Agricore United's NuLin™ flax has 20% more omega 3 in its oil – for heart health
- The University of Saskatchewan's waxy, hullless barley, developed under contract for Agricore United, has twice the cholesterol-lowering beta glucan content of regular barley
- New drought, salinity and herbicide-tolerant plant varieties not only improve productivity for farmers but help to protect the environment.
- Plant products now make up a large part of many non-food products, not just biofuels, but plastics, foam fillers, candle wax, lubricants and paints, solvents and cosmetics just to mention a few

The prospects for the future are even greater. The Grow Canada® Coalition estimates that within the next decade, there will be the potential for a global bio-economy driven by plant science innovation that will be worth \$500 billion. Working together in partnership with value chain stakeholders and regulators, Canada's industry could capture a substantial part of that.

The Challenge – the Process for Change

Canada's biggest challenge is the current process for regulatory change, which is cumbersome and slow to respond.

The agriculture and agri-product marketplace is changing rapidly. Windows of opportunity open and close very quickly. However, the Canadian industry is at risk of repeating history and missing significant windows of opportunity. Our biggest challenge is our current process for regulatory change, which is cumbersome and slow to respond to the changing needs of industry innovators, farmers and end users. For example:

Variety Registration

There is a clear connection between the level of private sector investment in research and development and the flexibility and agility of crop variety registration procedures and policies.

A clear connection can be drawn between the level of private sector investment and the variety registration system.

- Where seed innovators are not subjected to variety registration, the level of private sector investment and development of new varieties is high. Corn is not included in the variety registration system. Instead the industry maintains a comprehensive and detailed listing of corn hybrids, developed to capture market opportunities for farmers and end users.
- Where the system for recommending varieties for registration has had a strong connection to the value chain, new variety development is increasing and investment is strong. A good example is canola, where the Western Canada Canola, Rapeseed Recommending Committee has worked with the Canola Council of Canada to assess and anticipate changes in market and industry needs, and has worked within its mandate to accommodate.

- Similarly, a strong connection to the value chain drives innovation in soybeans, as does the fact that most soybean innovators are also corn innovators and that has resulted in variety registration recommending committees that are more flexible and forward looking.

Conversely, where recommending committees are under-resourced, and encumbered by other regulatory requirements, they are less able to adapt and, we would submit, are less willing to move away from procedures and policies that were established decades ago.

- A good example can be found in western wheat. The opportunities presented by the growing bio-economy are enormous, but very few new western wheat varieties have been registered in the last few years. In fact, according to SeCan, no new varieties of red winter wheat have been registered in western Canada in five years. As shown in the table above, private sector investment in cereals has dropped from over 10% in 1987 to an anticipated 2.5% by 2012.
- Another example can be found in the forage industry. In many cases variety registration of forage species requires testing and support of recommending committees, where committees are substantially under-resourced, or in some cases don't even exist. As a consequence, the share of private sector investment for forage research will be less than 1%.

Numerous reviews, beginning in the mid-1980s have recognized the need to modernize Canada's system of variety registration. However, despite consistent recommendations for a more flexible registration system, starting with the "FAAR" report in 1998, no changes have been made.

Despite the recommendations of various reviews over the last two decades, no changes have been made to Canada's system of variety registration since the late 1980s.

Intellectual Property Protection

Where there is a strong recognition of the link between intellectual property protection and investment in new technology, private sector investment is growing. However where that recognition does not exist, private sector investment is declining.

As with variety registration, a clear link can be made between private sector investment in research and development, and intellectual property protection.

- The crops with the highest share of private sector R&D investment – canola, corn and soybeans – have one thing in common. The link between intellectual property protection and investment in new technologies is well recognized and accepted by most producers. Up to and sometimes beyond 90% of the producers of these crops purchase new seed every year and enter into contracts and technology use agreements to do so. They do this to capture the benefits of new technology – the results of research and development.

- However those crops where private sector investment is declining also have things in common. Farmers seem less willing to contribute to research and development by buying new seed regularly, choosing to save seed from one year to the next. This situation could be viewed in two different ways: 1. Farmers don't see the benefits of buying new seed because new technology is not being delivered; or 2. New technology is not being delivered because the resources for investment are not being captured through seed sales.
- A very good example of the impact of the intellectual property protection environment can be found in Garden Seed. Two decades ago, the private sector was making some investments in research and development in vegetables and ornamentals for gardens. However, Canadian innovators did not have access to large markets because of international "national treatment" provisions, where only countries with Plant Breeders' Rights legislations in place could have access to many large international markets.

By the time Canada put in place Plant Breeders' Rights legislation, the market opportunity had been captured by large centres of excellence in California, the Netherlands and Japan. There is no longer any commercial investment in garden seed plant breeding.

Canada does not have the same access to intellectual property protection tools as do our major export competitors.

Canada's Intellectual Property Protection Tool Box is not as full as those of our competitors. For example:

- Canada is among the 24 members of the International Union for the Protection of New Varieties of Plants (UPOV) that still operates under the 1978 convention. Our major export competition, the United States, Australia and most of Europe, subscribe to the 1991 convention which recognizes the legitimate interests of the breeder, and better defines farmer and breeder exceptions, among other improvements.
- Unlike the United States and Australia, Canadian plant developers cannot make use of patents to protect plant varieties.
- Enforcement of existing Intellectual Property protection tools such as Seeds Act provisions and Plant Breeders' Rights is light to non-existent.
 - The Seeds Act serves as a type of Intellectual Property protection tool itself, because it states that seed cannot be sold by variety name unless it is of pedigreed grade. In addition to the fact that this provision is not consistently enforced, it is also not reflected throughout other Acts, both federal and provincial (eg. Grain Act, Crop Insurance Legislation) which freely allow the use of variety names.

Other Examples of the Need for Change

Without a broadly available authorized exporter program, Canadian seed exporters could miss developing export opportunities.

Developments in communications, inventory and other management systems have far outpaced the regulatory framework ability to make use of them.

There are other examples of a regulatory process for change that are not currently keeping up with changes in the marketplace, and which put Canada at risk of losing opportunities.

- CSTA's seed exporter members see a tremendous opportunity opening in Europe this year. However reduced resources at CFIA means that the work required to satisfy the conditions to issue an export certificate may not be done in a timely manner. This is despite the fact that the CFIA and the Canadian Seed Institute have piloted a program to accredit private labs and seed establishments to do the sampling and testing required for export certificates. The delay in making this program available on a broader basis could result in missed opportunities for Canadian seed exporters.
- Advances in communications, inventory and other management systems have far surpassed the regulatory framework. The technology exists for bar-coding on seed tags, electronic data capture and transfer and other modern mechanisms, but at this time the regulatory framework does not facilitate the adoption of this technology

Partnerships for Progress

The opportunities for Canadian agriculture and agri-products are almost without limit, and the potential benefits for all stakeholders in the value chain are tremendous. Canadian innovators, both public and private, can make a very substantial contribution to capturing those benefits, but it can only be done in partnership with our regulators.

It should be a very high priority of the Canadian Food Inspection Agency to develop and implement a process for regulatory change that will enable and encourage innovation and investment, now and in the future.

The system will need to be flexible and agile, and able to adapt to changing technologies and market and farmer needs.

In the Short Term

In the very short term, steps need to be taken to:

- *implement a more flexible variety registration system*
- *improve Canada's intellectual property protection tool box*
- *fast-track the authorized exporter program*
- *capture the opportunities presented by new technology in inventory management, communications and tracking*

In the very short term, there is a need to:

- Fast-track the long awaited changes to the variety registration system to make it more flexible and to encourage the development of new varieties to capture existing and developing markets for food, feed and non-food and feed uses.
- Bring Canada's intellectual property tool box in line with those of our major competitors, starting with development of a strong knowledge of the IP tools of our competitors, and including:
 - Consideration of the use of Patents for Plant Varieties
 - Examining the enforcement provisions in federal legislation to improve Intellectual Property Protection
 - Amending the Canadian Plant Breeders' Rights Act to bring it fully into conformity with the 1991 UPOV Convention, and reviewing the administrative and operational activities of the Plant Breeders' Rights Office to ensure that the needs of the clients of PBR, plant breeders, are being met.

- Work with the Canadian Seed Institute to fast-track the implementation of an Authorized Exporter program to assist Canadian seed exporters to capture developing export market opportunities.
- Work with the Seed Trade and Seed Growers to put in place provisions for electronic data capture and transfer, and new labeling, inventory and communications systems.

In the Longer Term

In the longer term the industry requires:

- *A “smart regulations” approach to product regulations*
- *Science based regulations that enable new technologies*
- *Consideration of a larger role for accreditation of private sector institutions and establishments to take on some of the low risk activities that are currently the responsibility of federal employees.*
- *Consideration of the “fit” of some current CFIA responsibilities with the mandate*
- *Development of a functional consultation process.*

In the longer term, CSTA hopes to work with the CFIA to put in place a regulatory framework for seed that can respond quickly to changes in demand and to developing market opportunities, including but not limited to:

- A “smart regulations” approach to plant products regulations to ensure that Canadian innovators are on an even footing with our competitors.
- Science Based regulatory systems that anticipate and provide for new technologies such as plant molecular farming, and other advances in biotechnology.
- Consideration of a larger role for accreditation of private sector institutions and establishments to take on some of the activities that are currently the responsibility of federal government employees, where the core CFIA mandate to protect health and safety is not a factor.
- Consideration of the “fit” of some current CFIA responsibilities such as Plant Breeders’ Rights, with the CFIA mandate
- The development of a functional consultation process that, while being inclusive, gives weight to the stake held in the issue by those being consulted.

Conclusion

CSTA appreciates and welcomes its working relationship with the Canadian Food Inspection Agency and with seed regulators.

We are confident that working together, we can build a system that will fulfill CFIA’s mandate to protect health and safety, while enabling plant innovators to capture opportunities for the entire value chain.