

## **CANADIAN SEED TRADE ASSOCIATION**

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While these discussion comments focus on the Canadian grains sector, most of my comments will be applicable to both Canada and the United States. After three general comments about the papers, I will relate some of the impacts of new technologies on the sector.

First of all, the grains papers represent very concise compilations of the events that have happened and are influencing the structure of the grains industry. As a general synthesis, I see three major drivers of change: globalization, deregulation and technology. Most of the elements of change can be traced to one of these three drivers.

Linda Young commented that one of the main drivers for research is to reduce costs. I would argue that one of the main drivers for research is to add value.

There was discussion about international buyers' demand for our high quality grains. What is "high quality?" Quality is determined by the customer. "High quality" is defined in terms of the purposes for which we use that particular grain. Our standards may be completely unacceptable for the uses of international customers and, therefore, could be considered "low quality" from a consumer perspective. Consequently, the term "high quality" does not mean anything except in the context of customer demand. What we are trying to do is develop products which meet the specifications of the customer.

For 15 years, I have been actively involved in the seed industry, working with new technologies and helping draft the regulations which allow them to be tested and used. Lately, I have also been involved with issues of customer acceptance of our genetically modified organisms (GMOs) in Europe and other countries. With these new technologies, crop protection will not come by chemical means, but by biotechnological means. In other words, it will come in the seed rather than in a container. The crop protection industry itself projects that over the next ten years, global sales of their products will fall from some \$30 billion to approximately \$15 billion. They project that the seed industry will grow by some \$20 billion over the next decade.

It is interesting to rank the relative sizes of countries' seed industries. Canada is valued at about \$350 million. We are about the same size as the Netherlands. Japan is about six times larger than we are. Many people find that peculiar, but the value of your seed industry has more to do with the level of your research activities than your land base. If the crop protection segment of the seed industry is going to increase by

\$20 billion, what are the opportunities of Canada, Mexico and the United States to capture that growth? Whether that opportunity is realized will be determined entirely by the level of research and development investment.

One area which has not been touched upon yet, is the impact of the Rio Biodiversity Convention of 1992. The objectives of the convention are conservation, sustainable use and equitable sharing of benefits. The convention will have a very profound impact on our industry. Currently, we are trying to get European acceptance of products of biotechnology, such as corn and canola. The consumer sector of Europe, actually environmentalists, are looking for GMO-free products. We are at the vanguard of biotechnological developments—particularly in crop production. Presently, it is intended that, after production, GMO products will be commingled or blended with all other varieties, and move on down through the food chain or through our bulk handling system as a single uniform product governed by grades. Technically, with only one field of production commingled into the bulk handling system; you no longer have GMO-free commodities. With GMO-free limits, you cannot ship anything from a bulk system that commingles.

The problem with the Rio Convention is that it falls under the environmental program of the United Nations. Therefore, the federal agencies representing the environment—such as Environment Canada and the U.S. Environmental Protection Agency—take the lead role. These agencies take the position that before any modified product can be imported into a country, it must be approved in that country. Technically, before the first acre of any GMO material is planted, you have to get approval by every potential export market. Currently, it costs between four and five million dollars to get the early approvals out of Europe. For instance, in canola, Canada has early approvals from only four of the fifty export country customers. Unless the World Trade Organization (WTO) and other bodies are willing to engage the health and environment ministries in a meaningful way, those groups are going to use the Rio Convention for Biodiversity to de-globalize and re-regulate this industry.

Concerning intellectual property and plant breeders' rights, the Canadian version of plant breeders' rights is like the old IBM personal computer—the 1088 or 286. It is better than the Monroe calculator, but it is a long way from a Pentium. The Union Internationale pour la Protection des Obtentions Végétales (UPOV) is an organization of countries with Plant Breeders Rights (PBR). Canada's PBR conforms to the UPOV 1978 Convention. The UPOV 1991 Convention has some very important provisions which we need to address here in Canada to remain competitive. The UPOV 1991 Convention broadens the scope of protection—from the seed to the products produced from the seed. For example, if a new soybean variety is developed in the United States, pirated by some means and brought to Canada, produced and shipped back into the United States, the holder of that property right could stop that product at the border and collect the royalty revenue on that production.

Canada's Plant Breeders Rights still have two significant exemptions which are very problematic to the industry—a research exemption and a farmers' exemption. The research exemption means other researchers can use your material to develop new products. The farmers' exemption allows farmers to plant their own seed on their own holdings. Many of the new players in our industry find these exemptions too onerous. So, Canadian breeders have moved to other forms of intellectual property protection, such as patents. Now contracts are used to plug the farmers' exemption—the ability to farm and plant back his own seed.

In summary, as a plan for the future, we need to engage the ministries of health and the environment in the WTO discussions because that is where the technical barriers will be negotiated. Ironically, there is another related technical barrier which runs parallel to that—the Food Quality Protection Act of 1996 in the United States. It is yet to be fully implemented, it is now in place. Basically, what it says is if there is detectable residue in any product produced, then the tolerance is zero. The problem is that Canada grows crops which are not grown in the United States. Canada has pesticides registered for use in producing those crops, on which there is no residue tolerance in the United States. If we ship a product and there is a detectable level of pesticides and the tolerance is zero, there is a technical barrier.