

GOVERNMENT SHOULD MAINTAIN PLANT BREEDING ROLE

By Laurence Tisdall

Plant Breeders' Rights legislation (Bill C-107) may or may not get a second reading in the House of Commons before a fall election. Even if it does not pass at this time, it is likely to return as similar bills have previously been proposed by both Liberal and Conservative governments. Therefore, it is essential to understand how this legislation could affect farmers.

The following quotation is from a position paper on Plant Breeders' Rights (PER) issued by the Agricultural Institute of Canada.

"Plant Breeders' Rights is the equivalent of patent rights but is applicable to plant cultivars and varieties. The effect is to give the breeder of a variety sole legal possession of that variety and a legal basis for the collection of royalties on the sale of seeds or propagules of protected varieties. This will allow return on investment in plant breeding."

In times of government restraint, according to the Genetic Resources for Our World (GROW) organization, the private sector would become the major factor in plant breeding, rather than simply complementing already existing publicly-funded programs.

With the realization that seed companies, being profit oriented, do not sponsor breeding which prevents erosion of an already narrow gene bank, there is cause for concern that the situation would only become worse with PBR.

Uniformity

In the U.S., 100% of all millet already comes from 3 varieties of seed; 96% of all peas from 2 varieties; 72% of all potatoes from 4 varieties and 71% of all corn from 6 varieties of seed.

The dangers involved when a crop's genetic characteristics become too uniform are more evident when one considers just how vulnerable varieties can be.

For example, a blight first found in the Philippines, showed up in Florida in 1970 and by the time the year was over farmers had sustained over \$1 billion in crop losses. Three years later, a single strain of winter wheat (Bastostaja) was wiped out in the Soviet Union, resulting in crop losses of 2540%.

Recently, uniformity in the cytoplasm of a sunflower variety grown all over the world has been attacked by a virus to which it was not resistant, and the results have been disastrous. Although in 1970 US, farmers could choose from 160 different corn seed brand names, all varieties had the same male sterility cytoplasm which was vulnerable to blight.

In response to this situation, the National Academy of Sciences did a study entitled "The Genetic Vulnerability of Major Crops." The academy described U.S. crops as "impressively uniform and impressively vulnerable!"

Lost varieties

Unfortunately, it is all too easy to lose varieties which contain unique genes; for instance the Montreal melon", once renowned for its special taste and sold in New York for exorbitant prices, has disappeared without a trace.

To put a stop to the loss of "old" plant types, organizations around the world have formed gene banks to conserve germ-plasm of different crops. Canada is responsible for oats, barley and millet.

Write-off!

Alas, according to the International Board on Plant Genetic Resources (IBPGR), Agriculture Canada's genetic resource bank in Ottawa rates among the poorest in the world. IBPGR called it a "write-off." This means that we are potentially losing varieties, perhaps indispensable genes resistant to future diseases, on a day-to-day basis.

The significance of the involvement of the private sector becomes all the greater in the light of recent takeovers of seed companies by major companies such as Dutch-Royal Shell, Dow, Upjohn, Pfizer, Monsanto, DuPont and others.

Multinationals

These companies are attempting to breed resistance to their own chemicals (herbicide or high fertilizer levels) into the plant variety they market, thus enabling them to sell "complete packages" to the farmers.

As they gain even greater control of the seed market it becomes harder to find the "old" varieties which perform well under less intensive management.

In addition, these companies are reported to be selling some herbicides at 13 times the cost of production. In this time of economic difficulty the last thing farmers need is increased seed costs, not to mention being forced into expensive high input practices.

The previous Manitoba government calculated that should plant patenting legislation be adopted, royalty rates would immediately increase seed costs by 10% and such costs would climb higher as companies gained more and more control of the "new" varieties.

The Canadian Seed Trade Association (CSTA) maintains in their book "Seeds for a Hungry World" that there is no danger of multinationals becoming a major force in plant breeding since farmers would still be allowed to breed their own seed under PBR legislation.

However, I believe that it would be impossible for an independent producer or even a small seed company to compete with these multi-billion dollar companies under the rules of PBR.

Instead of privatizing plant breeding, the federal government should be creating programs to protect the world's germ-plasm, to shelter farmers from the effects of multinational takeovers, to increase breeding efforts with more broad-based goals in mind (plants which grow well with fewer inputs, have better weed competitiveness and palatability), and to encourage more resource efficient farming practices.

There are many other arguments against PBR. However, I will leave you with this thought: PBR in other countries has proven to be the stepping stone for legal arguments leading to gene patenting (patenting of life-forms and DNA-strains). Should anyone have the right to patent life?

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