

# The Price of Patented Seed

## — The Value of Farm-Saved Seed



In 2011 farmers in Canada paid out \$1.8 billion for commercial seed. Total realized net farm income that year was just over \$5.5 billion. Seed costs have been rising faster than total farm expenses, a trend that is fuelled by Plant Breeders' Rights legislation and the increasing use of gene-patented seed. There are strong indications that the federal government plans to amend our current law that is based on the UPOV '78 Plant Breeders' Rights regime so that it complies with the more restrictive UPOV '91 regime. The new regime would accelerate the increase in costs by making seed more expensive and by severely limiting farmers' ability to use farm-saved seed.

The graph in Figure 1 shows the relationship between total farm expenses and commercial seed purchased for all farms in Canada, including mixed farms and livestock operations. The cost of purchased seed relative to other expenses has risen from less than 2.5% of total expenses in 1981 to over 4.5% today. These statistics do not take into account the cost of using farm-saved seed.

Looking at prairie farms only, which concentrate more on grain production, it is clear that the farmers are paying increasing amounts for seed. Figure 2 shows that the amount of money Saskatchewan farmers paid for seed went up seven-fold between 1981 and 2011 – from \$50 million to over \$350 million. Seed costs are increasing faster than the Consumer Price Index, which shows the price of other goods in Canada increased by about 2.5 times during the same period (Figure 3). Furthermore, the rate of increase in seed costs is accelerating, due in part to the rise in seed prices and also due to a shift towards purchasing seed every year, particularly for canola, instead of using farm-saved seed.

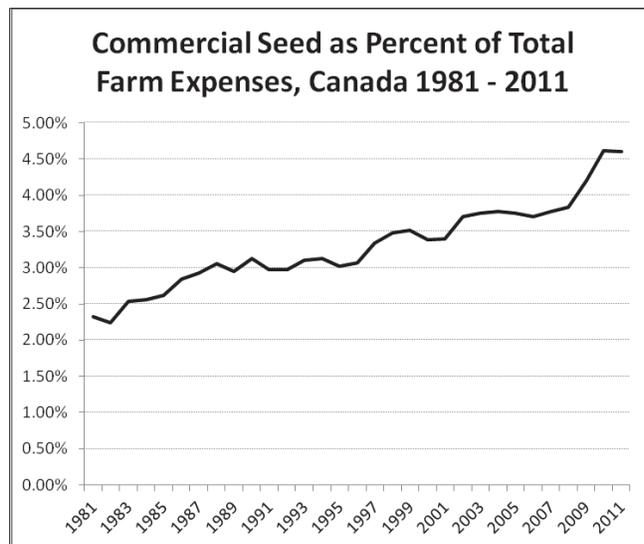


FIGURE 1— Source: Statistics Canada

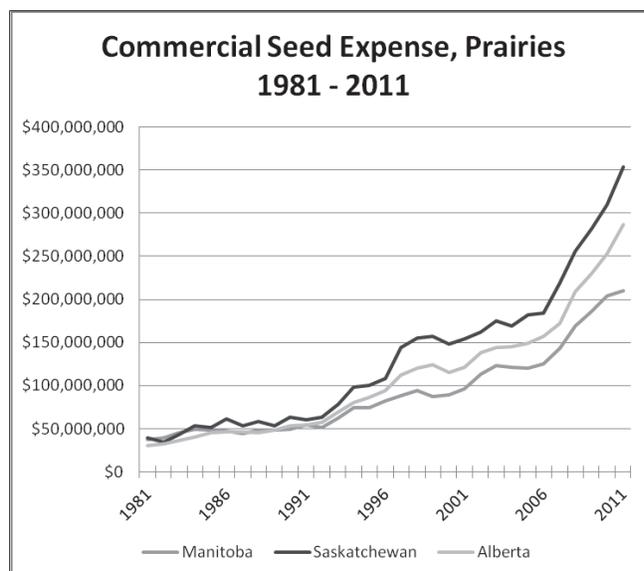


FIGURE 2— Source: Statistics Canada

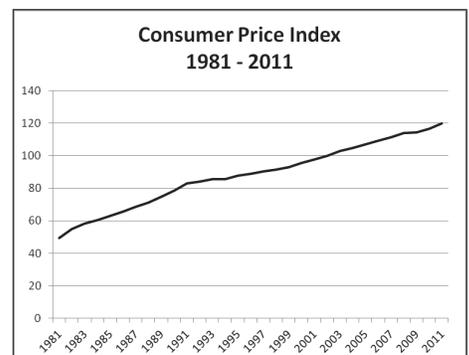


FIGURE 3— Source: Statistics Canada

(*The Price of Patented Seed, from page 1...*)

Why is seed rising in price faster than other products on the market? Figure 4, the graph of per-acre seeding costs based on average Alberta commercial seed prices for wheat, barley, conventional canola and herbicide tolerant canola, is worth studying in some detail.

Note that there is not much difference in the cost of commercial seed per acre among the four crops until around the year 2000. Then, the price of canola began to exceed the price of wheat and barley. Conventional canola and herbicide tolerant (genetically modified) canola prices rose in tandem at about the same rate until 2007. Herbicide tolerant canola continued a rapid rise in price, while conventional canola prices dropped, then leveled off.

In 1996 and 1997 gene-patented varieties of genetically modified canola were introduced. First Monsanto began to sell Roundup Ready Canola, then Aventis (now Bayer) introduced Liberty Link Canola. Liberty Link included a technology surcharge within the shelf price, while Monsanto charged an additional Technology Use Agreement (TUA) fee of \$15.00/acre. The Alberta government started reporting herbicide resistant canola prices in 2000, as by then a significant number of farmers were using it.

In May 2004 the Supreme Court of Canada ruled in the *Schmeiser vs Monsanto* case, declaring that the presence of a plant containing a patented gene constituted patent infringement, regardless of how the plant got to be in the field. This decision increased farmers' risk of being sued as a result of planting contaminated conventional seed, and was an inducement to buy patented seed and pay the TUA (litigation chill). It may be that this decision was a factor in the 2004 price jump. The price of conventional canola peaked in 2007. By 2009 herbicide tolerant canola was being grown almost exclusively, with about 90% being patented GM canola, and about 10% non-GM imidazolinone tolerant canola which, though not patented, is subject to plant breeders rights. Only about 1% of canola grown was conventional. At the end of 2011 Alberta stopped reporting conventional canola prices.

The TUA cost is not included in Figure 4, but it is a significant dollar amount that flows from the farmer to the seed company. In 2011 over 19 million acres of canola were grown in Canada. At \$15/acre, at least \$261 million dollars would have been paid in technology use fees over and above the cost of the seed itself.

While the price of canola seed was rising, the price of wheat and barley seed remained fairly steady, with only a slight increase over the 15 years of data recorded. Why the difference?

It can be argued that a key factor in the increase in both the price of canola seed and the amount of money paid out for commercial seed is the loss of farmers' ability to discipline the market by saving their own seed. In addition, older, less expensive conventional varieties have been de-registered, and thus removed from the marketplace. Before GM canola was introduced, farmers could save canola seed the same way they could save wheat and barley seed. The restrictions on saving canola seed have tightened through TUAs, contracts that prohibit saving and which authorize surprise inspections by the company to monitor compliance, through litigation chill following the *Schmeiser* decision, and through the gradual deregistration of non-GM varieties and GM varieties with expired patent protection.

The Canadian Seed Trade Association (CSTA) is increasingly vocal in its lobby to have Canada adopt UPOV '91, which would give plant breeders rights holders a level of control over seed similar to patent protection, and it would have further restrictions on saving seed through measures to control stocking (storing) and conditioning (cleaning) of seed. When you see how lucrative patented canola has been for the seed companies, it is easy to understand why they would

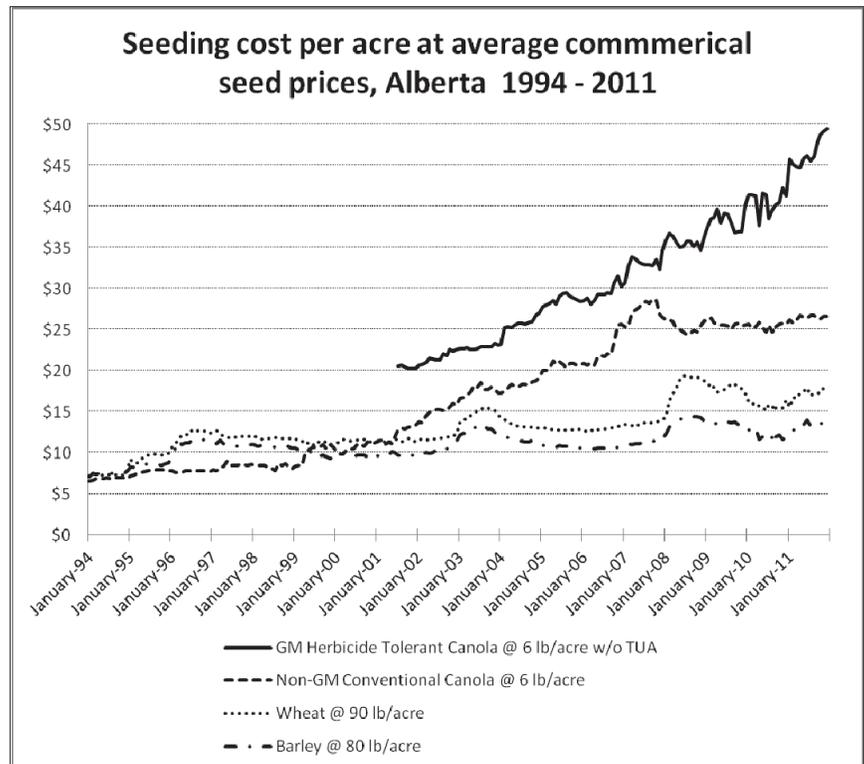


FIGURE 4— Source: Alberta Farm Input Prices, Government of Alberta

## Making Canada UPOV '91-Ready

### Bill C-38

- Amends the *Seeds Act* to allow the CFIA President to license third parties, giving them authority over controlling or assuring the quality of seeds or seed crops, including the sampling, testing, grading or labelling of seeds.
- Requires licensees to keep records and make them available to the CFIA
- Allows the President of the CFIA to define conditions of, revoke or suspend these licenses.
- Allows the Cabinet to make regulations regarding these licenses.

### Bill C-18

- Amends the *Canada Grain Act* to make every flour mill, feed mill, feed warehouse and seed cleaning mill a “work for the general advantage of Canada”, placing these entities under federal jurisdiction and deems them part of federal infrastructure for the purposes of regulation.

also like to have the ability to prevent farmers from saving wheat, barley, flax, oats, and non-GM varieties of canola, corn and soybeans. UPOV '91 is a mechanism to transfer massive wealth from farmers to seed companies every year.

The federal government's Seed Value Chain Roundtable has as one of its objectives “*educate and inform growers about the 1991 Convention of the International Union for the Protection of New Varieties of Plants (UPOV '91) and proposed changes to Canada's Plant Breeders' Rights Act, in order to accelerate the modernization of the Canadian plant breeders' rights legislation to conform to UPOV '91*”. It has established a Working Group to advance this objective. The Saskatchewan government has stated its support for UPOV '91, particularly in relation to wheat breeding. The CSTA is actively lobbying the federal government for adoption of UPOV '91.

It is truly disappointing that some public and university-based plant breeders are also calling for the adoption of UPOV '91. In 2010, a statement by the deans of 13 Canadian agriculture colleges suggested that farmers should expect to put 10% of their gross income towards paying for Intellectual Property Rights (royalties and license fees), with the idea that their institutions would get a share. In 2010, 10% of farm revenues would have exceeded total net farm income by \$1.2 million. After many years of cutbacks to public funding, these institutions look to enhanced royalties as a new revenue stream that will allow them to continue their own work, yet this solution would come at the expense of farmers' livelihoods.

The first leaked negotiating text of the Canada-European Union Comprehensive Economic and Trade Agreement included a demand from Europe that Canada adopt UPOV '91. The National Farmers Union made this known. Public opposition ensued, and subsequent drafts of CETA have dropped the demand. However the federal government has introduced changes to legislation through Bill C-18 and Bill C-38 that would allow for the enforcement of UPOV '91 provisions.

If UPOV '91 is adopted in Canada we can expect that the cost of seeding will increase significantly, as farmers will be forced to buy seed every year and the price of seed will go up. The value of farm-saved seed cannot be over-stated. By restricting the possibility of farmers saving seed, UPOV '91 would create a de-facto monopoly by the seed industry. Without control of our seed, we really do not have control of our farms.

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## UPOV '91 versus UPOV '78

The International Union for the Protection of New Varieties of Plants (UPOV) is an organization established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991. The purpose of UPOV is to oversee a system of intellectual property rights that allows plant breeders to control the use of, and get paid for developing new varieties.

UPOV '78, which Canada currently uses, requires the payment of license fees when buying seed from plant breeders' rights holders. Plant breeders can charge royalties on seed for 18 years.

UPOV '91 extends the royalty period to at least 20 years for seed and 25 years for trees and vines plus the amount of time it takes to approve the breeder's application for rights. Royalties can be collected at any time from when seed is purchased to when the crop is harvested, used and/or sold. UPOV '91 offers governments the option to provide for “farmers' privilege” to save seed for planting on a crop by crop basis. This would only be allowed under limited circumstances and only if it does not unduly impinge on remuneration for rights holders. If farmers do save seed, they are not allowed to sell it, and must get permission of the plant breeders' rights holder to store seed and to have seed cleaned for planting on their own farms. If permission is granted, the rights holder can stipulate any conditions, such as the amount of royalties to be paid.