

The Price of Patented Seed - The Value of Farm Saved Seed

In 2011, Canadian farmers paid \$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 fuelled by Plant Breeders' Rights (PBR) legislation and the increasing use of gene-patented seed. Now, with Bill C-18, the federal government plans to amend our current intellectual property protection law based on the UPOV '78 PBR regime to comply with the more restrictive UPOV '91 regime. The new regime would accelerate cost increases by making seed more expensive, facilitating the use of end-point royalties and severely limiting farmers' ability to use farm-saved seed.

Figure 1 shows the relationship between total farm expenses and the cost of commercial seed purchased for all farms in Canada, including mixed and livestock operations. Seed costs relative to other expenses have 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.

On prairie farms that concentrate more on grain production, it is clear that farmers are paying more for seed. Figure 2 shows that the cost of seed for Saskatchewan farmers went up seven-fold between 1981 and 2011 – from \$50 million to over \$350 million. 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 instead of using farm-saved seed, particularly among canola growers.

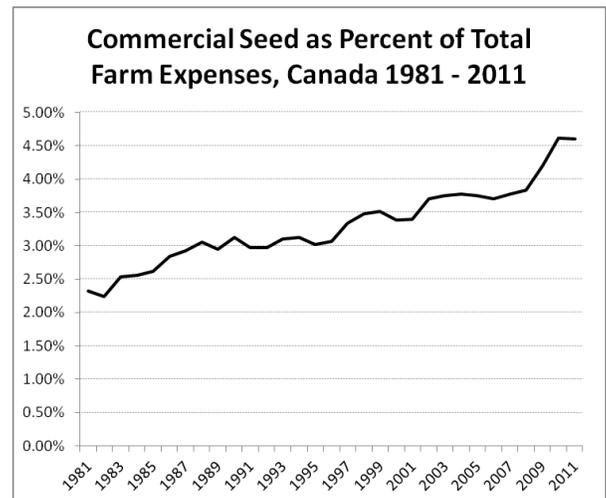


FIGURE 1

Source: Statistics Canada

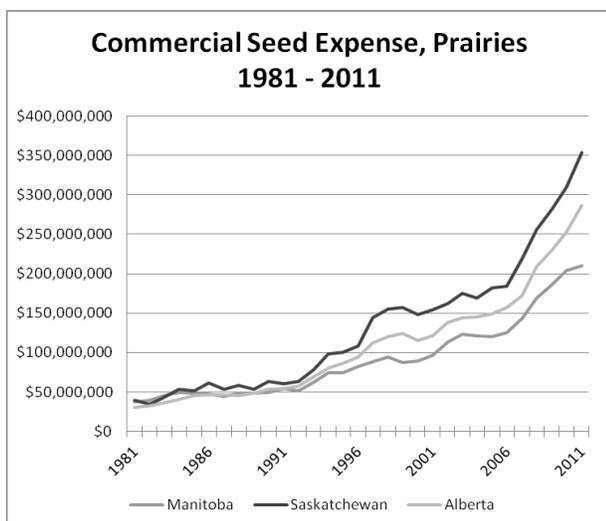


FIGURE 2

Source: Statistics Canada

Why is seed rising in price faster than other products on the market? Figure 3 (next page) shows per-acre seeding costs using data for average Alberta commercial seed prices of wheat, barley, conventional canola and herbicide tolerant canola, and 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 2000 when the price of canola seed 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 seed prices continued to rise rapidly, while conventional canola seed prices dropped, then levelled off.

In 1996 and 1997, 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.

In May 2004, the Supreme Court of Canada ruled in the *Schmeiser vs Monsanto* case, declaring that the presence in a field of a plant containing a patented gene constituted patent infringement, regardless of how the plant got there. 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. It may be that this court decision was also a factor in the 2004 price jump. The price of conventional canola seed peaked in 2007. By 2009, herbicide-tolerant canola was being grown almost exclusively, with about 90% patented GM canola, and about 10% non-GM imidazolinone-tolerant canola which is not patented, but is subject to PBRs. Only about 1% of canola grown was conventional. At the end of 2011, Alberta stopped reporting conventional canola seed prices.

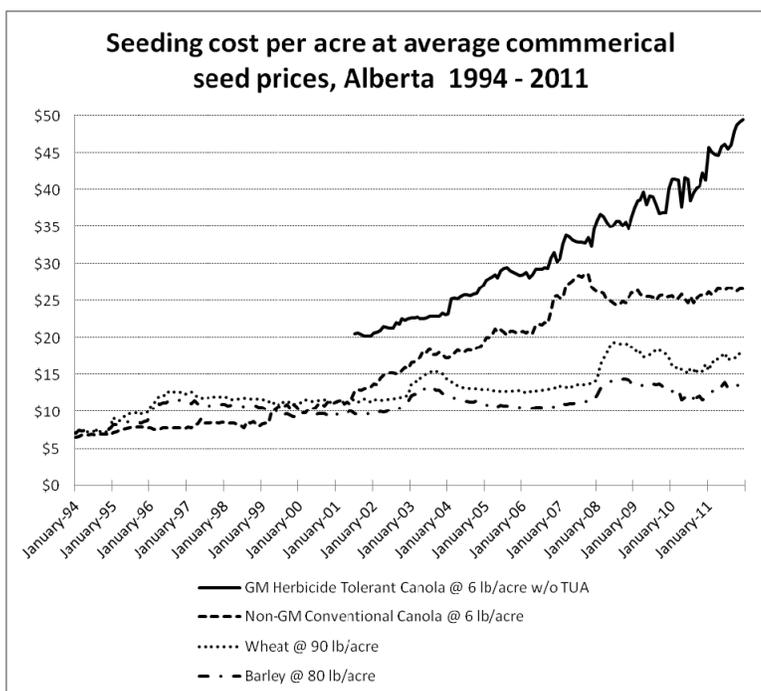


FIGURE 3 Source: Alberta Farm Input Prices, Government of Alberta

The cost of TUAs is not included in Figure 3, but it does represent a significant flow of dollars from farmer to seed company. In 2011, over 19 million acres of canola were grown in Canada. At \$15/acre, farmers would have paid at least \$261 million dollars 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 for the increase of both the price of canola seed and the amount of money paid out for commercial seed relates to farmers' inability to discipline the market by saving and re-using their own seed. In addition, older, less expensive but still useful 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 as a result of TUAs, contracts that prohibit seed saving and which authorize surprise inspections by the company to monitor compliance; litigation chill following the *Schmeiser* decision; and the gradual de-registration of non-GM varieties.

The Canadian Seed Trade Association (CSTA) is lobbying to get Canada to adopt UPOV '91, which gives PBR holders a level of control over new seed varieties similar to patent protection, and places further restrictions on saving seed through measures to control stocking (storing) and conditioning (cleaning) of PBR-protected seed. Given how lucrative patented canola has been for seed companies, it is easy to understand why they would also like to have the ability to prevent farmers from saving seed for new varieties of wheat, barley, flax, oats, and new non-GM varieties of canola, corn and soybeans. UPOV '91 is thus a mechanism to transfer massive wealth from farmers to seed companies every year.

If Bill C-18 is passed and UPOV '91 is adopted in Canada, we can expect seeding costs for all crops to increase significantly, as farmers will increasingly 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 farmers' ability to save seed, Bill C-18 will create a de-facto monopoly for the seed industry. If we do not control our seed, we really do not have control of our farms or our food.