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Report and recommendations of the National Farmers Union  
to the  
Canadian Food Inspection Agency  
on its  
Consultations on proposed amendments to the *Plant  
Breeder's Rights Act* to bring existing legislation into  
conformity with the 1991 UPOV Convention

Ottawa, Ontario

March 8, 2005

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Executive Summary

The federal government is considering amendments to Canada's *Plant Breeders' Rights Act* (*PBR Act*) that would bring that *Act* into accord with the 1991 version of the UPOV treaty (the Convention of the International Union for the Protection of New Varieties of Plants). Currently, Canada's *PBR Act* is based on the 1978 version of the UPOV treaty.

Key to evaluating the proposed amendments is understanding that their primary effect would be to provide a broad range of powerful tools to Plant Breeders' Rights-holders—sharp-edged tools that these corporations and agencies could use to collect royalties from farmers, to realize higher prices for their seeds, to pursue and punish financially those farmers alleged to have contravened Plant Breeders' Rights, and to extinguish farmers' right to save and re-use seeds.

The proposed amendments would give seed companies the power to pursue and punish alleged PBR violators with exactly the same tools and with the same legal powers that these companies now possess to pursue and punish patent infringers. Regardless of what one thinks about the specifics of the Schmeiser case—who was right and who was wrong—that case starkly demonstrates the formidable legal tools that seed companies have at their disposal to investigate and punish farmers who these companies allege have misappropriated genetically-modified (GM) seeds containing patented genes. The proposed changes to the *PBR Act* would extend those formidable legal tools to cover seeds that do not contain patented genes. These proposed changes would multiply the number of farm families threatened with farm-destroying lawsuits, forced into court, and/or forced into damaging confidential settlements. The proposed amendments would greatly increase the power of some of the most powerful, profitable, and aggressive corporations in the agri-food chain, and would dramatically increase the risks, costs, and liabilities that farmers face.

**“Farmers”**

In addition to the effects on farmers, changes to seed regulations equally affect thousands of market gardeners, horticulturalists, orchardists, and other growers across Canada. This report uses the term “farmers” for brevity, but the NFU respects that these vital issues affect thousands of Canadians who use seeds and plants but who would not self-identify as farmers. Further, control of our seed and food systems is of vital interest to almost every Canadian. The NFU is pursuing this issue on behalf of all Canadians: rural and urban, farmers and non-farmers.

Specifically, the proposed UPOV-'91-compliant *PBR Act* amendments would:

- **Multiply potential liabilities.** Proposed *PBR Act* amendments would make a farmer liable not only for seed that he or she allegedly procured illegitimately, but for all seed subsequently propagated and used by that farmer in future years. This change would dramatically multiply a farmer's liability and, thus, it would multiply the power of seed companies and other rights-holders to force a farmer to bargain and to settle, even if the farmer is innocent.
- **Extend the time in which seed companies can claim damages.** Currently, seed companies and other rights-holders must assert their rights at the time of a seed sale and collect royalties from the seller. Under the proposed amendments, seed companies would be able to pursue payment from farmers years, even decades, into the future.
- **Extend royalty collection periods.** An amended *PBR Act* would increase the royalty protection period from the current 18 years; a 25-year protection period is likely.
- **Permit rights-holders to collect royalties from grain companies, processors, and other customers.** If a rights-holder did not have sufficient opportunity to collect royalties at the time of sale, that rights-holder could demand those royalties from a downstream user. This power is called "cascade rights."
- **Force farmers to reveal names of seed suppliers and customers.** Under proposed *PBR Act* amendments, the ultimate forum for dispute resolution would be the courtroom. In such a process, seed companies would be able to compel farmers to turn over tax records, sales records, and the names of their customers and suppliers.
- **Give seed companies the power to seize crops.** The proposed *PBR Act* amendments and their cascade rights would give seed companies, under a wide range of circumstances, the power to seize farmers' crops.
- **Create a reverse onus.** The proposed amendments would place the onus on farmers to prove lawful possession of protected varieties, to prove that the varieties they possess are not the varieties alleged by a rights-holder, or to prove contamination or inadvertent possession. The alternative is a costly court battle.
- **"Criminalize" possession.** Farmers would not need to plant a given variety in order to be found in violation of the *Act*. Simply possessing grain that a company claims is "seed" becomes an infraction.
- **Create uncertainty and liability for seed cleaners.** The proposed amendments, coupled with amendments in Bills such as C-27, create huge potential liabilities for seed cleaners. This would create a "chill" among seed cleaners, making it harder for farmers to get their seed cleaned and, thus, harder for farmers to save and re-use seed.
- **Force seed cleaners into an enforcement role.** Proposed amendments would make it illegal for seed cleaners to clean seed—rights-holders would have that exclusive right. Thus, in order for seed cleaners to get authorization to conduct their business—in other words, to get permission to clean seed—it is very likely that they would have to agree to collect and report information regarding their farmer customers and to collect and retain samples of the grain they clean.

Taken together, these new tools give overwhelming power to seed companies and other rights-holders. Because we've had the opportunity to see how such powers are used in regard to GM seeds that contain patented genes, we know that rights-holders will use these powers to harass farmers, to threaten huge lawsuits, to demand and obtain expensive and confidential settlements (even from some farmers who are completely innocent), to crack down on seed cleaners, to raise the price of seeds, and to make it harder for small and independent seed producers to enter or compete in the market.

An example will be revealing. Consider this scenario: Today, Farmer A buys 25 bushels of wheat. The wheat is a PBR-protected variety but no royalties are paid. Under the current *PBR Act*, the rights-holder has a limited time frame in which to pursue royalties, and the royalties are limited to those due on the 25 bushels. The rights-holder currently has no power to come after the farmer several years later.

But consider the same scenario under a future UPOV '91 regime. Farmer A buys the same 25 bushels of wheat. No royalties are paid. The farmer plants the 25 bushels of seed on 25 acres and harvests 1,000 bushels. The farmer re-seeds that 1,000 bushels on 1,000 acres, and repeats that practice on 1,000 acres in each of the following ten years, seeding just over 10,000 bushels of seed in total over the ten years.

Ten years after the farmer buys the 25 bushels, the rights-holder discovers the farmer growing the protected variety. The rights-holder can demand royalties and a range of other remedies and damages, not just on the 25 bushels that it might have collected on originally, but on 10,000+ bushels. Further, the rights-holder can pursue the farmer through a lengthy and costly court battle, seize the farmer's crop, take action against others who might have purchased the grain (such as grain companies or processors), demand surrender of the farmer's records, and obtain injunctions against the farmer.

The NFU doesn't seek to deny plant researchers and other seed developers adequate pay for their important work, but multiplying farmers' liability 100- or 1,000-fold is extreme and unnecessary. Allowing seed companies to pursue damages to the extent of tens-of-thousands-of-dollars when their actual loss was only a few dozen dollars is unjust. But this is exactly what would result from a move from a UPOV '78-based PBR regime to a UPOV '91-based regime. Farmers want new seed varieties, but the proposed amendments raise the question: New varieties at what price?

Further, because PBR enforcement system contains few checks and balances, many of the farmers accused by seed companies will be completely innocent. Farm families will be made victims by unwanted seed contamination, incorrectly labelled seeds, mistakes made by seed companies and others in packaging and processing seeds, and mistakes made in investigating alleged infractions. The lessons from our criminal justice system—Morin, Carter, Milgaard, Martinsville—; the lessons from our seed system—Starlink, ubiquitous canola seed contamination, Monsanto's gene mix-ups, etc.—; and the lessons from Monsanto's investigations in the U.S. show us that we are foolish to believe that only the guilty will be accused and punished. Innocent farm families will be swept up in the net. These farm families will be put in an excruciating position: knuckle under and pay a large settlement and agree to a gag order, or risk the farm in a costly court battle and risk an even larger settlement. Such is the current dilemma facing many innocent farm families accused (behind closed doors by seed

companies) of violating seed gene patents. Such will be the dilemma for many more farm families who grow non-patented PBR varieties if the Canadian Food Inspection Agency (CFIA), federal Ministers, and MPs push forward with the proposed amendments to our *PBR Act*.

Taken together, these powerful new tools for rights-holders—along with patents on genes and increased seed contracting—also create an unprecedented attack on farmers’ right to save and re-use seeds. UPOV ’91 is not silent or neutral on the right to save and re-use seed: *UPOV ’91 clearly grants the right to save and re-use seed, not to farmers, but to rights-holders—corporate and government.* UPOV ’91 and the government’s proposed amendments extinguish farmers’ right to save and re-use seed and instead grant farmers the possibility of an “exemption” or a “privilege.” Farmers get a contingent dispensation—limited, provisional, and probably temporary—to transgress the newly-minted right of Monsanto et al. to save and re-use its seed.<sup>1</sup>

If corporations gain the wide range of powers outlined above, what will farmers gain? Proponents of *PBR Act* amendments suggest that farmers will gain a proliferation of higher-yielding and better-performing seeds. While no one would depreciate the valuable work of the researchers who develop and improve our seeds, these men and women, as well as the government officials who regulate our seed system, must understand an unhappy fact: Farmers are not able to retain the financial benefits of improved seeds; others in the agri-food chain are reaping those benefits. As Section B (below) will show, while seed performance and yields continue to rise, net farm income continues to fall. This is because input manufacturers (including seed companies), processors, and retailers increasingly snatch away the profit dollars that should legitimately go to farmers. The hard work of plant breeders bears fruit, but that fruit is snatched away from farmers.

UPOV ’91 and the proposed changes to Canada’s *PBR Act* represent a completely unnecessary gift of power and profitability to seed companies, a completely unnecessary and illegitimate seizure of farmers’ powers and profits, and a completely unnecessary and unprecedented move to extinguish farmers’ inalienable right to save and re-use seeds. The proposed changes are outrageous and damaging, and should be rejected by all farmers, citizens, democratically-elected legislators, and public servants.

***The National Farmers Union strongly recommends that:***

- ***The government of Canada abandon its proposed amendments to our current Plant Breeders’ Rights Act;***
- ***Canada renew and expand its excellent system of publicly-funded plant breeding and variety development; and***
- ***Canadian legislators enshrine, in stand-alone legislation, farmers’ rights to save, re-use, exchange, and sell seeds.***

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<sup>1</sup> “Monsanto et al.” is used throughout this document as a shorthand to reference intended to refer to all very large seed companies. When the reference is to Monsanto in particular, “Monsanto” is simply used.

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A. UPOV '91 and amendments to the *PBR Act*:

What seed companies get

**1. Expanding rights: Cleaning and stocking**

Our current *Plant Breeders' Rights Act (PBR Act)* came into force in August 1990. Section 5 (1) of that *Act* confers several rights, including the following:

5. (1) *Subject to this Act, the holder of the plant breeder's rights respecting a plant variety has the exclusive right*

(a) *to sell, and produce in Canada for the purpose of selling, propagating material, as such, of the plant variety;*

...

Our current *PBR Act* gives rights-holders exclusive rights to “sell” seeds and other propagating material (cuttings, etc.) of protected varieties, and exclusive rights to “produce in Canada for the purpose of selling” seeds and other propagating material. Since our *PBR Act* restricts only the *sale* of seeds or the production of seed *for sale*, no farmer exemption is needed for seed saving and re-use because the *Act* includes no prohibition on such actions. Farmers who don't *sell* seed are simply invisible to the *Act*.

**Who are the “Plant Breeders”?**

Almost all Canadian wheat acreage is planted to varieties developed by Agriculture Canada and other public agencies. The same is true for barley, oats, and most cereals.

Corn, canola, and soybeans are different. The majority of the rights-holders are corporations such as Monsanto, Bayer, and Pioneer Hi-Bred.

When we talk about Plant Breeders' Rights, the “breeders” whose rights we are protecting are not hard-working individual researchers, but, instead, public agencies, on the one hand, and transnational seed corporations, on the other.

For reasons of clarity, this paper uses “rights-holders” rather than “plant breeders.”

Amendments to our *PBR Act* based on UPOV '91 would grant additional rights to seed companies and other rights-holders, including exclusive rights over conditioning and stocking. "Conditioning" includes cleaning and seed treating, and "stocking" is synonymous with saving, storing, or possessing. To conform to UPOV '91, the government of Canada would have to amend our current *PBR Act* to prohibit not only the unauthorized sale of PBR-protected varieties or their advertisement for sale, as is now the case, but also seed cleaning and saving.

We need not stretch our imaginations to picture what these proposed amendments might look like. The federal government's aborted 1999 Bill C-80 included amendments that would have expanded Plant Breeders' Rights in accord with the UPOV '91 treaty. Here is one Section of Bill C-80:

- 5.1 (1) *Subject to this Act, the holder of the plant breeder's rights respecting a plant variety granted on or after the day on which this section comes into force has the exclusive right to*
- (a) sell, and produce in Canada for the purpose of selling, propagating material [seeds, cuttings, etc.], as such, of the plant variety;*
  - (b) make repeated use of propagating material of the plant variety in order to produce commercially another plant variety if the repetition is necessary for that purpose;*
  - (c) **condition** [emphasis added] propagating material of the plant variety for the purpose of propagating the plant variety;*
  - (d) export or import propagating material of the plant variety;*
  - (e) **stock** [emphasis added] propagating material of the plant variety for the purpose of doing any act described in paragraphs (a) to (d); and*
  - (f) authorize, conditionally or unconditionally, the doing of any act described in paragraphs (a) to (e).*

Such a Section assigns farmers' age-old right to save and re-use seed, not to farmers, but to seed companies and government agencies. This terminates farmers' abilities to save and re-use seed unless some "exemption" or "privilege" is granted (more on exemptions below). But while an exemption or privilege might restore a farmer's *ability* to save and re-use seed, such an exemption does not alter the fact that UPOV '91 gives the *right* to save and re-use seed to transnational seed companies and other seed developers. Taking away from farmers a right that they have held for over 10,000 years and giving that right to a seed company such as Monsanto—one that has shown great disdain for farmers—is deeply offensive to farm families and to all other Canadians who care about seeds and are concerned about the future of our food system (more on farmers' rights below).

## 2. Farmers’ “privilege”

UPOV ’91 provides countries with an option to permit farmers to save and re-use seed. The failed 1999 Bill C-80 included a farmers’ privilege Section as follows:

5.4 The rights [conferred on Plant Breeders’ Rights-holders] do not extend to

...

**(d) the use of harvested material of the plant variety grown by a farmer on the farmer’s holdings for subsequent reproduction by the farmer of the plant variety on those holdings** [emphasis added].

Farmers should not be lulled by a farmers’ privilege. Such a privilege is limited, fragile, easily transgressed by contracts and other legal instruments, and very probably temporary.

Those who are calmed by the inclusion of this farmers’ privilege need to keep in mind that, even with the privilege in place, UPOV ’91-compliant amendments to our *PBR Act* would still give seed companies and other rights-holders a vast range of royalty-extraction, price-support, and farmer-punishment tools. Farmers wishing to understand the real-world impacts of proposed amendments must carefully consider farmers’ rights and privileges, but they must also look beyond these issues to see the fundamental and damaging shift in power and profit that UPOV ’91 triggers—that it triggers if it does not contain a farmers’ privilege, and equally if it does.

## 3. Cascade rights

Cascade rights extend, across time and geography, the ability of seed companies and other rights-holders to pursue royalties and other payments for their seeds.

Our current *PBR Act* essentially requires rights-holders or their representatives to catch, in the act, a farmer or another person selling a protected variety without proper authorization or royalty payment. Our *PBR Act* does not give right-holders the open-ended power to come after the farmer who may have *purchased* the variety. In contrast, UPOV ’91 includes cascade rights that allow rights-holders to collect royalties from a seed buyer if the rights-holder did not have an opportunity to collect from the seller.

The CFIA’s November 2004 “Consultations on proposed amendments to the Plant Breeders’ Rights Act...” includes the following:

To bring the current PBR Act into conformity with the 1991 [UPOV] Convention, [the Act] would also have to be amended to extend rights to include **harvested material** (e.g. the **grain**, the fruit, cut flowers, etc.), **including entire plants** and parts of plants, obtained through the unauthorized use of propagating material. By extending protection to the harvested material, breeders of all crops would be provided protection for their varieties when they are propagated without their consent and the harvested material is sold [emphases added].

The current *PBR Act* functions on a “you-snooze-you-lose” principle: If the rights-holder doesn’t catch the seller selling or advertising a protected variety, the rights-holder loses

its ability to pursue remedies. Under the proposed amendments, the ability of rights-holders to pursue royalties would be greatly increased and open-ended in time.

#### 4. Dramatically increased liability

If we grant cascade rights and the rights to condition and stock seed to Monsanto et al, we dramatically increase farmers' potential liabilities. Because seed companies' rights (and entitlements to royalties and damages) will not be stopped at the time of transaction—but will instead extend forward in time and across geography, taking in subsequent years and crops and subsequent purchasers—the potential liability for a farmer accused of transgressing a breeders' rights is multiplied dramatically.

As we point out in the Executive Summary: Where, under the current *Act*, a farmer accused of violating a seed company's Plant Breeders' Rights might be liable for the royalties on the original seed purchases,<sup>2</sup> under a UPOV '91 system, that farmer's liability multiplies to include every bushel of seed propagated from the original purchase and subsequently seeded in the following years. A potential liability that, under the current system might be just dozens of dollars, would turn into tens-of-thousands of dollars under a UPOV '91-based system.

#### **PBR and GM seeds: the same powers of enforcement?**

In preparing this report, the NFU repeatedly asked lawyers and CFIA staff if they could identify any significant difference between the legal tools and powers that seed companies now have to pursue patent infringers and the powers that those companies would have to pursue PBR violators. These experts could identify no differences.

An NFU representative attended a February 24<sup>th</sup> meeting in Winnipeg sponsored by the Canadian Plant Technology Agency, a private-sector PBR-enforcement body. The NFU put the same question to the panel of lawyers and PBR enforcement experts. Again these experts could point to no differences between the legal remedies and tools available under our patent system and those that would be available under an amended *PBR Act*.

The creation of this huge potential liability for farmers is the single most important outcome from proposed amendments to our current *PBR Act*. This is because seed companies and other rights-holders will be able to use this extremely large potential liability as a lever to force farmers to bargain and to force them to settle. This lever can be used against the guilty and the innocent alike. It is a tool far too powerful to be placed in seed companies' hands.

#### 5. Reverse onus and a very big stick for seed companies

As we will detail below, enforcement of a UPOV '91-compliant PBR regime would function, in practice, exactly as does the current enforcement system for seeds that contain patented genes. Under a UPOV '91 system, once a seed company alleges that a farmer has misappropriated a PBR variety and once that company has demanded payment for settlement, it will be up to the farmer to muster sufficient evidence that he or she is in legitimate possession of the seed, that the seed is of a different variety, or that the possession is inadvertent (caused by contamination or by a mistake elsewhere in the

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<sup>2</sup> Actually, it is the seller who would most likely be liable, but the point here is to emphasize that the liability would be tied to the volume of product originally sold.

system). If the farmer fails to satisfy the seed company, if the farmer fails to discharge his or her onus, the seed company can then threaten to move on to court where the company will almost certainly demand an even higher settlement and where the farmer will face the prospect of large legal bills. Percy Schmeiser estimates that Monsanto spent in the neighbourhood of two million dollars prosecuting him. Schmeiser spent approximately \$400,000 defending himself. UPOV '91 creates a huge risk for farmers.

What will an accused farmer do? What if the seed company refuses to accept the farmer's evidence? What if the farmer cannot provide sufficient documentation to satisfy the company? What if the possession of a protected variety is unwitting or inadvertent—caused by contamination, mislabelling, or a mistake? What will an innocent farmer do when caught in the jaws of the farm-threatening system that UPOV '91 creates? Will he or she turn down the seed company's offer of a large-but-relatively-modest confidential settlement and choose instead to fight a much larger claim in court? Will he or she risk, win or lose, legal bills that might climb into hundreds of thousands of dollars? Will he or she endure sleeplessness, marital stress, and the risk to his or her children's future on the family farm? Or will the farmer settle, shut up, and get on with life?

Anyone interested in such questions should acquaint themselves with the record of how Monsanto has conducted its investigations and suits against hundreds of farmers that, it alleges, have infringed its patents. A starting point for such a study is *Monsanto vs. U.S. Farmers* published by the U.S.-based Centre for Food Safety. This report lists Monsanto lawsuits and details awards to Monsanto ranging into the millions of dollars. The report makes the compelling point that the majority of cases never get to court: they are settled behind closed doors. Where seeds are controlled by patents, the vast majority of cases seem to be resolved by secret settlements. Because of the malicious prosecutions and wrongful convictions evident in our criminal justice system and because of the clear potential for contamination and mistakes within the seed system, it is reasonable and wise to assume that a significant number of the farmers accused by seed companies and other rights-holders will be innocent.

#### **Fines are a ruse**

Some, such as the Canadian Plant Technology Agency, who advocate amendments to our *PBR Act* and tougher enforcement tools, try to reassure farmers by saying that a new *PBR Act* could be enforced through fines. Talk of fines is a diversion; fines are simply voluntary guidelines for dealing with the most co-operative farmers. There is no evidence that there will be any legislation that will limit the rights of Monsanto and other companies to go to court whenever they choose.

Further, fines apply only if a farmer agrees that he or she is liable. They don't apply to farmers who assert their innocence; such cases go to court. Farmers should not be sidetracked by talk of fines. The ultimate enforcement mechanism in an amended *PBR Act* will be a costly court battle and the huge potential liabilities.

## **6. The power to seize**

A UPOV-'91-compliant *PBR Act* would give seed companies and other rights-holders the power to seize crops during or after a lawsuit if the alleged PBR violator

- was likely to dispose of the crop,
- was unlikely or unable to pay royalties or other settlements, or
- refused to pay royalties and other settlements.

Cascade rights coupled with existing civil law mechanisms mean that when a farmer and a seed company get into a shoving match, the farmer's crop could soon belong to the company.

## **7. The power to force disclosure of names**

Once farmers have entered the court system for an alleged violation of an amended *PBR Act*, seed companies could force farmers and others to turn over a wide array of otherwise-private documents including seeding records, financial records, receipts, and lists of names of seed customers and seed suppliers.

## **8. The power to collect from downstream customers**

In addition to allowing seed companies to pursue farmers for a longer period and for larger amounts of money, cascade rights also empower seed companies to collect royalties and damages from grain companies and also from feedlots, malt plants, ethanol plants, and others who might process a crop grown from disputed seed.

## **9. A “chill effect” on grain companies and customers**

When faced with the new risks and liabilities created by cascade rights, what will grain companies and processors do? They may make their grain purchases contingent on farmers providing proof that the grain they are delivering is grown from legitimately-acquired seed. In many scenarios, this would have the effect of forcing farmers to more often purchase certified seed. Farmers who grow crops from common seed or from certified seed purchased several years in the past, would find markets closed if they couldn't provide ready proof that the buyer wouldn't be risking liability to a seed company.

This chill on grain buyers, coupled with an increasing number of contracts that require seed purchases and with increasing calls for “traceability” will accelerate a move toward a system where farmers are forced to buy certified seed much more often. A wide range of powerful interests are increasingly forcing farmers into contracts and increasingly forcing farmers to buy seed each year.

## 10. The ability to reduce access to seed cleaners

One of the least understood and least appreciated effects of a UPOV '91-based PBR regime is the effect that it could have on seed cleaners. Proposed amendments would give seed companies and other rights-holders exclusive rights to condition—read “clean”—seed.

Such a move effectively outlaws independent third-party seed cleaners—farmers’ privilege to clean and stock seed applies only to farmers, not to seed cleaning operations. Thus, under the proposed system, there would have to be some sort of licensing system set up to authorize and permit independent seed cleaners to operate.

It is very likely that in order to get a licence and authorization to clean seed, cleaners would have to agree to collect and submit large quantities of data to rights-holders. Cleaners would probably have to obtain and retain:

- The names of farmers who have had seed cleaned,
- The variety name of the seed,
- Quantities of seed,
- A signed declaration indemnifying the cleaner against liability, and
- Seed samples.

In addition to the likely effects of the proposed *PBR Act* amendments, Bill C-27 (now before the House of Commons) includes the following Section:

25. (1) *An inspector or officer, in order to administer or enforce an Agency-related Act, has the authority to . . .*

(i) *examine, test, analyse and take measurements of a regulated product or any other thing, take samples of the product or thing free of charge, and examine any related document or information;*

. . .

(k) *require any person to present a list of persons to whom a regulated product has been distributed as well as any other relevant information necessary for the Agency to locate the regulated product. . . .*

Seed is a “regulated product” under the *Canadian Food Inspection Agency Act* and *Seeds Act*. An “inspector” is any person or class of persons the CFIA President designates.

There is a high probability that seed cleaners would be forced to become extensions of seed companies’ surveillance and enforcement programs. Seed companies and other rights-holders would wield a very heavy hammer in this scenario, because no seed cleaner would be allowed to do business without the written consent of rights-holders. Note that these surveillance and enforcement measures would be used not only to police the use of PBR varieties, but also almost certainly to enforce rights over seeds with patented genes as well.

Seed cleaners would pass the costs of licensing, compliance, and increased paperwork on to farmers. This would raise the cost of using farm-saved seed relative to using purchased seed. This would also force farmers to shoulder a significant portion of the cost for the surveillance and enforcement system arrayed against them.

## 11. Royalties on farm-saved seed

Leaving aside for the moment protestations by seed companies and others that they have no wish to interfere with farmers' abilities to save and re-use seeds, it is important to realize that if anyone *did* want to charge royalties on farm-saved seeds, the critical legislative changes that would be needed would be:

- the creation of cascade rights, and
- the assignment of the exclusive right to condition and stock seed to rights-holders.

UPOV '91 and any derived amendments to Canada's *PBR Act* would put in place the key changes needed to facilitate royalty collection on farm-saved seed. While the inclusion of a farmers' privilege closes the door, for now, to collecting royalties on farm-saved seed, simply removing or eroding that farmers' privilege section would allow the companies to begin charging royalties on such seed.

At this very time when seed companies and their organizations are claiming that they don't want to collect royalties on farm-saved seed, they are pushing for amendments that would lay the legislative foundations to do just that.

## 12. Duration of royalty protection

Our current *PBR Act*, Section 6 (1), lists the duration of the plant breeders' rights:

6. (1) *The term of the grant of plant breeders' rights shall, subject to earlier termination pursuant to this Act, be a period of **eighteen years** [emphasis added], commencing on the day the certificate of registration is issued. . . .*

The requirement under UPOV '78, on which our *PBR Act* is based, is that the *minimum* term of protection must be 15 years for all varieties except vines, forest trees, and ornamental trees, which must be allowed 18 years' protection. Our *PBR Act* ignores the 15-year option and grants all plants protection for 18 years.

UPOV '91 specifies the following minimum royalty protection periods:

- twenty-five years for vines, forest trees, fruit trees, and ornamental trees; and
- twenty years for grains and all other crops.

The 1999 Bill C-80 included a clause to extend the duration of breeders' rights to 25 years for *all* plants, *thus going beyond the 20 years for grains required by UPOV '91*.

Given that our current *PBR Act* goes beyond the 15-year minimum requirement for grains and similar plants and grants protection to all plants for 18 years, and given that Bill C-80 similarly ignored the option to give grains 20-year protection and, instead, proposed 25-year protection for all plants, it is very likely that any new *PBR Act* amendments would grant all plants 25 years of protection.

### **13. Patenting of PBR varieties**

The UPOV '78 agreement prohibits patenting of PBR varieties. The UPOV '91 agreement removes that ban on double protection, opening the door for seed companies and other rights-holders to further increase their power and control by securing double protection on their seeds. In the wake of the Harvard Mouse and Schmeiser cases, it is unclear how plant patenting will be resolved in Canada. Nevertheless, this UPOV '91 provision is designed to further strengthen the hand of the dominant seed companies when dealing with farmers and competitors.

### **14. “Essentially derived”**

While the measures above extend right-holders' powers over farmers, essentially granting seed companies protections *from* farmers, UPOV '91 Sections on “essentially derived varieties” grant the companies protection from competitors.

The NFU will leave it to others to debate whether provisions for “essentially derived” varieties are strictly necessary, but the NFU will point out that the concept of “essentially derived” seems to rest upon undefined concepts: The terms “predominantly derived from” and “conforms to the initial variety in the expression of the essential characteristics” are undefined. It seems that UPOV may be content to let the seed companies fight this out among themselves.

### **15. What seed companies get: Conclusion**

Above, this report states that the UPOV '91-based *PBR Act* amendments would give seed companies the power to pursue and punish alleged PBR violators with exactly the same vigour and with the same legal tools that these companies now possess to pursue and punish seed patent infringers. To speak with greater precision, we should say that these powers to pursue and punish alleged PBR violators would be *greater* and more wide-ranging than those currently existing for punishment of patent infringers. To show how the powers under a UPOV '91-based PBR system will go even further than those under the patent system, here are three examples:

- a. Unlike a case involving seeds with patented genes, merely *stocking* clean seed of PBR varieties would be an infraction. To clarify, under patent law, it is unlikely that a farmer could be taken to court for having a bin of GM canola if he or she

never planted it.<sup>3</sup> But under the terms of a UPOV-‘91-based *PBR Act*, a bin of clean seed could be an infraction, even if the farmer never plants it.

- b. The proposed amendments to the *PBR Act* would permit rights-holders to pursue and collect royalties and damages from grain companies, processors, and other customers—a power that they do not have over crops with patented genes.
- c. *PBR Act* amendments would restrict seed cleaning and may well require more-detailed record keeping and disclosure by seed cleaners.

Finally, when considering whether to give such draconian powers to Monsanto et al., legislators should keep the following in mind: Until now, Monsanto et al. have had the power to threaten huge lawsuits and drag farmers into court if farmers infringed upon patents. But so far farmers have had the *option* to avoid such risks and liabilities by growing non-patented, non-GM varieties. By extending the reach of Monsanto et al. to include both patented and non-patented varieties—essentially all commercial seed—legislators will cut off farmers’ options and escape routes. By extending seed companies’ reach to include almost all seed, legislators potentially place every farm family in Canada in the jaws of a trap that—even though it will only spring shut on a few hundred families—will, in many cases, destroy farms.

***The National Farmers Union strongly recommends that the government of Canada scrap current plans to amend the Plant Breeders’ Rights Act and that it abandon all future plans to adopt legislation based on UPOV ’91.***

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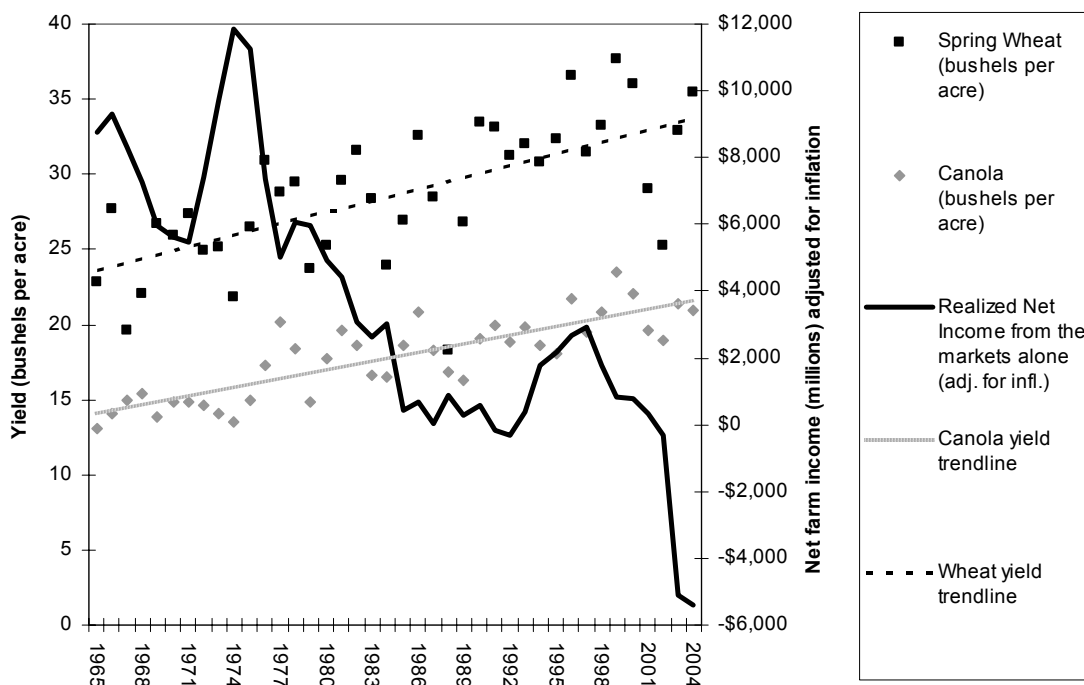
<sup>3</sup> The Schmeiser case introduced the concept of “standby utility” into the adjudication of patent cases. One interpretation of standby utility is that it refers to the benefit that a farmer gains by planting Roundup Ready canola, even if he or she does not spray it with Roundup; the farmer gains the benefit of the *option* to spray. Thus, the standby utility would be triggered when the canola was *planted*, and, thus, merely possessing patented canola would *not* be an infraction. Alternatively, however, merely having the canola in the bin might be interpreted as bringing standby utility. In that case, simply possessing seeds containing patented genes may already be prohibited.

## B. UPOV '91 and amendments to the *PBR Act*: What farmers get

The proposed *PBR Act* amendments would provide no benefits to farmers. But the amendments are a seed-company wish list of new tools and powers. Corporate and government proponents of the *PBR Act* amendments, however, would object to the above characterization: That seed companies would get everything and farmers would get nothing. Proponents of the amendments assert that better protecting the intellectual property rights of seed companies will lead to “innovation”—an increased number of higher-yielding and superior-performing seed varieties for farmers. These new and improved seeds, they claim, will boost farmers’ net incomes.

The problem is that no one has checked the data. No one has checked to see whether there is any correlation between seed performance and variety proliferation, on the one hand, and net farm income, on the other. A look at the U.S.—with its UPOV '91-compliant seed system running in tandem with massive income-crisis-suppressing subsidies—should give us pause. The EU, some of which is UPOV '91-compliant, requires even larger subsidies to keep its farmers on the land. The benefits of a UPOV '91-based system are elusive.

**Figure 1: Seed yield and net farm income from the markets: 1965-2004**



Sources: Yield data provided by Agriculture and Agri-Food Canada. Income data from Statistics Canada.

Figure 1 graphs canola and wheat yields (trending up) and net farm income with subsidies subtracted (trending down). Figure 1 should give pause to those who say that the farm crisis can be tempered by increasing the performance of our seeds. It should also give pause to those who say that now is a good time to transfer the cost of seed development to farmers. As we plumb the depths of the worst farm income crisis in history, government and industry are considering legislation that would increase seed companies’ powers to take even more money from farmers; legislation key to the project of transferring seed development costs onto farmers. Even if one agreed with the project, one should question the timing.

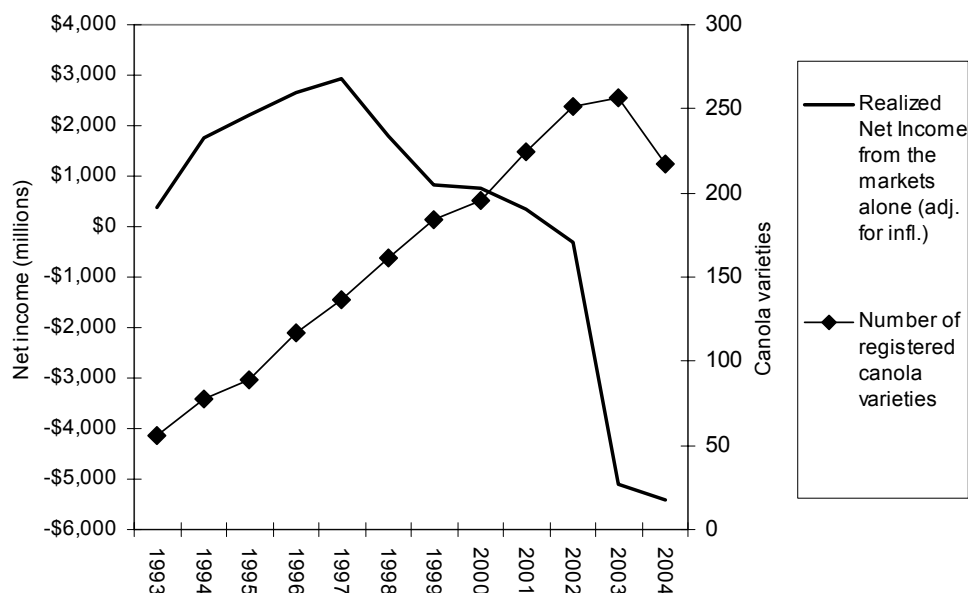
Figure 1 clearly shows that seed yield and net farm income have moved in opposite directions over the past 40 years. The NFU is not saying that rising yields *cause* falling incomes—although government officials who incessantly (and erroneously) blame the farm income crisis on oversupply would seem forced to make exactly that argument. Rather, the NFU is challenging those who blithely claim that higher yields will translate into higher incomes.

One final clarification: The NFU does not believe that the actions of seed companies play unparalleled or preponderant roles in causing the farm income crisis. It's not the case that all other variables have remained constant and that, somehow, seed companies or changes to seed regulations have single-handedly caused the net income decline depicted in Figure 1. Quite the opposite: seed companies have acted *in exactly the same way* as corporations in every other sector. Companies all along the agri-food chain have used mergers and acquisitions, patents and other methods of reducing competition, and government deregulation and withdrawal, to supercharge their abilities to extract wealth from the farm level.

Higher yields may drive *gross* farm revenue up, but fewer, larger, less-competitively-disciplined, and more powerful seed companies will interact with similarly-ascendant corporations in other agri-food sectors to drive *net* farm income *down*. The failure to distinguish between policy effects on gross revenue versus effects on net income—and the simplistic and unempirical assumption that these two financial measures will move in parallel—is a prime cause of our farm income crisis. While gross farm revenue may be dependant on seed yield or production volume, *net income is determined by market power*.

Figure 2 reinforces Figure 1. Figure 2 demonstrates the inverse relation between the number of canola varieties available to farmers and farmers' net income. The number of varieties available quintuples, and net farm income falls from positive \$3 billion to negative \$5 billion.

**Figure 2: Availability of canola varieties and net farm income: 1993-2004**



Sources: Variety number data from CFIA. Income data from Statistics Canada

## C. UPOV '91: What farmers lose

As noted above, the losses, costs, and risks that will accrue to farmers as a result of UPOV '91-based amendments to our PBR system are very significant and include:

- Increased seed costs (as a result of longer royalty periods and many other factors);
- Increased potential liabilities dispensed largely at the discretion of seed companies; and
- Interference in access to seed cleaners.

By a huge margin, however, the most significant loss for farmers and Canadians is the loss of farmers' right to save and re-use seeds. Some talk of maintaining a farmers' privilege. Anyone reassured by that privilege should consider the difference between free speech as a right and free speech as a privilege, between human rights and human privileges, even between property rights and property privileges. And we should ponder the injustice of a proposed law that would give Canadian farm families the *privilege* to save and re-use seeds at the exact same time that it would award a foreign corporation *the right* to do the very same things.

Extinguishing farmers' right to save and re-use seed is historic and is unprecedented in 10,000 years of agriculture. The bounty of seeds and foods that form the base of our civilization worldwide was created by farmers, indigenous peoples, and other citizens. Our seeds have been carefully selected and improved and developed by hundreds of generations of farmers and citizens. And that vast and historic process of selection and improvement relied on the right to save, re-use, and exchange seeds. UPOV '91 would repudiate farmers' role in creating our seeds, extinguish farmers' rights to those seeds, give those rights to Monsanto et al., and, as a final outrage, arm those companies with a powerful range of new tools that they could use to pursue and punish farmers who save and re-use their seeds, as farmers have for hundreds of generations.

### **Our seeds are created by farmers, not by seed companies**

Of the 1,000 main crops currently grown in North America, only a handful originated here—these include Jerusalem artichokes, cranberries, and sunflowers, but none of today's major commercial crops. Our agriculture rests on seeds brought from around the world and adapted by farmers, indigenous peoples, and government bodies. This occurred before the rise of big seed companies.

Farmers, indigenous people, governments, and public research have created our seeds. Now, seed companies want to restrict farmers in order to increase these companies' profits and to protect "their" rights to "their" seeds.

Our current *PBR Act*, based on UPOV '78, takes away farmers' right to sell or exchange seed. An amended *PBR Act*, based on UPOV '91, would take away farmers' right to save or re-use seed. In the midst of the worst farm income crisis in history—when the profit of a single seed company, Monsanto, exceeds the profits of all the 250,000 farm families in Canada combined—we need to ask if it is necessary for farmers to give up rights and powers to some of the world's most powerful and profitable corporations. Are we so sure farmers will benefit? Are we sure that the solution to the farm income crisis is to give corporations more power?

Or perhaps we need the courage to reverse our current direction: to try a novel course, to try to resolve the farm crisis by *increasing* farmers' power, not by decreasing it.

***The National Farmers Union strongly recommends that Canadian legislators enshrine farmers' rights to save, re-use, exchange, and sell seed.***

## D. Monsanto's record

As we contemplate handing over powerful new tools to Monsanto et al., and as we contemplate giving seed companies the same power over PBR-protected seeds that these companies currently enjoy over seeds with patented genes, we should acquaint ourselves with how a company such as Monsanto conducts itself.

Monsanto spends over \$10 million (U.S.\$) annually<sup>4</sup> investigating, intimidating, pressuring, and suing farmers. The company has a staff of 75 employees devoted to these pursuits and Monsanto also contracts dozens of lawyers from outside firms.

So far, in North America, Monsanto has sued 147 farmers and 39 small businesses for patent infringement and other alleged misuses of its seeds. It has sued for, and won, judgements as high as \$3 million (U.S.\$), and several more over \$1 million. The median amount of a judgements is \$75,000 (U.S.\$), with farmers' legal costs (sometimes in the hundreds-of-thousands) coming over and above these amounts. Some Monsanto Technology Use Agreements include provisions entitling Monsanto, in the event of a violation, to "120 times the applicable Technology fee." This amounts to well over \$1,000 per acre. When Monsanto goes to court, it goes looking for farm-destroying amounts of money.

But the lawsuits are just the visible tip of a much larger iceberg. Monsanto investigates roughly 500 farmers every year. These invasive investigations allegedly sometimes include private investigators entering farmers' fields without permission and taking samples. Sometimes Monsanto's agents have local police officers escort them onto farmers' properties. Allegedly, Monsanto's agents have used entrapment, posed as new members of the community or land surveyors, harassed customers and neighbours of suspected patent infringers, and, it is alleged, broken into one farmer's office. Monsanto has set up "snitch" lines so that farmers can report their neighbours for suspected patent infringement.

Many of Monsanto's investigations lead to confidential settlements. Monsanto sends a registered letter to a farm family alleging an infringement of a Monsanto patent and requesting a financial settlement to avoid legal prosecution. For most farmers, this is an offer they can't refuse: the alternative is a costly and lengthy legal battle that, win or lose, could bankrupt their farms. The settlements are usually confidential. The number of such confidential settlements probably reaches into the hundreds.

Monsanto is aggressive and relentless. One Arkansas farmer, Ray Dawson, reported on Monsanto's treatment of him and his wife: "They [Monsanto] pushed me as hard as they could. . . . If you're looking for a bully story, I don't know a worse case than what I went through. . . . We had to end it."<sup>5</sup> Monsanto threatened Luetta Dawson with jail time, claiming she lied on her deposition. The Dawsons finally wrote Monsanto a cheque.

Monsanto has damaged farms, sown dissension in communities, and harassed families. It has done all this to protect its profits and patents and to deny farmers their millennia-old right to save and re-use their own seeds. Do we want to replicate this abusive system in our *PBR Act*?

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<sup>4</sup> Unless otherwise stated, numbers and facts in this section are taken from: The Center for Food Safety, *Monsanto vs. U.S. Farmers*, 2005.

<sup>5</sup> As cited in *Monsanto vs. U.S. Farmers*, p. 45.

## E. Who should pay for plant breeding?

The UPOV '91-based amendments to our *PBR Act* can also be seen as an attempt by the federal government to create a pool of royalties and profits sufficiently large to support a for-profit, private seed development system. As the federal government looks for ways to cut its investment in crop variety development, it is also looking for ways to increase the pool of (farmer) money available to private breeders and seed companies.

Until the 1990s, seed development in Canada was public. Researchers on the public payroll at public universities and Agriculture Canada facilities developed new varieties to meet farmers' needs and then turned those varieties over to farmers at low cost. In the early '80s, the public sector did 95% of plant breeding in Canada and 100% of breeding for cereal crops and oilseeds.

Recently, however, transnationals have moved in to capture the profits from the seed "industry." To do so, these companies needed vast regulatory regimes: First came Plant Breeders' Rights (PBR), then gene patenting and global agreements to protect patents. Proposed amendments to Canada's *PBR Act* are part of an ongoing attempt to construct a financial base under a high-cost model of private plant breeding and research.

Instead of this corporate-controlled, profit-maximizing, farmer-restricting system, Canada needs a publicly-funded, publicly-controlled plant breeding system to inexpensively and efficiently develop the seeds needed by Canadian farmers and the Canadian economy.

Plant breeding and seed research contribute to the public good and provide long-term benefits that cannot be recovered through short-term fees. Breeding and research require free exchanges of information among farmers and researchers. Breeding and research must be publicly-funded, done in public institutions, and the results must be shared widely, at low cost, and with few restrictions.

***The National Farmers Union strongly recommends that Canada renew and expand its excellent system of publicly-funded plant breeding and variety development and that that breeding and development be carried out by public servant researchers and academics in publicly-owned research stations and universities.***

### **What everyone used to know about funding plant breeding**

The idea that farmers will not be the primary beneficiaries of better-performing seeds—that others will capture those benefits—is neither radical nor new. That idea is one that, until recently, everyone knew and accepted.

For about a century, ending sometime in the 1980s, most economists and public servants working on agriculture policy knew that farmers were not the primary beneficiaries of increased yield and production: those benefits would be captured elsewhere—at the processor, retailer, or consumer level. Thus, it was accepted that seed development should be paid for broadly, through taxes collected from industry, businesses, and consumers. It was widely accepted that it was unfair to make farmers pay if farmers would not reap the benefits.

The NFU is simply updating that analysis: farmers do not benefit from higher performance seeds and higher yields. The plummeting farm income trendline in Figure 1, and the global farm income crisis, should teach us at least that much.

## E. Why UPOV '91?

There is no pressing reason for Canada to amend its laws to conform to UPOV '91. No international treaty or trade agreement requires it; most other countries have not done it; and there would be few benefits from it.

There are about 190 countries in the world. Thirty-one have seed laws that conform to UPOV '91. The other 159—84%—do not. And this is not just a case of the agricultural powerhouses getting on board and smaller countries lagging behind. While Tunisia, Uzbekistan, and Moldova are on-board with UPOV '91, Argentina, Brazil, France, Spain, Canada, and China are not.

Adopting a UPOV-'91-based system is an optional, voluntary, discretionary act on the part of Canada, parliamentarians, and the CFIA. Given the degree of harm that such an act would cause to farmers, we need not pursue this option.

## F. Cost-benefit analysis

The National Farmers Union strongly believes, for the reasons detailed above, that the proposed amendments to the *PBR Act* would fail any rational cost-benefit analysis. Such amendments would provide huge benefits to Monsanto et al., while creating huge costs and risks for Canadian farmers. But should the government of Canada wish to do a cost-benefit analysis, the NFU would be interested in how such an analysis would deal with the following factors:

- **Costs and benefits shift over time.** The past fifty years demonstrate that, over time, costs shift toward farmers and benefits shift toward the agri-business companies that dominate the other links in the agri-food chain. How would a government of Canada cost-benefit analysis deal with these shifts over time? How would it take into account the historic trend to shift costs and risks at the farm level and to capture benefits elsewhere?
- **Costs and benefits are lumpy.** Cost and benefits are often given as aggregates, in averages. But these aggregates and averages can obscure more than they reveal. Benefits tend to accrue disproportionately to some, as costs do to others. For instance, in the case of GM crops, large conventional farms may gain some small benefits but organic growers will shoulder huge costs and risks. In the case of PBR varieties, in the unlikely event that there was found to be some small benefit for farmers, how would this be reconciled against the small minority of farm families who might be bankrupted in court and lose their farms entirely?
- **Costs and benefits are subjective.** How, for instance, would the government of Canada quantify the financial benefits of improved seed performance? And to whom would they assign these benefits? Figure 1 shows that yield and net income move in opposite directions. How would a cost-benefit analysis reflect this reality?

## G. Conclusion

There needs to be some way to fund plant breeding and variety development. The NFU strongly favours publicly-funded, not-for-profit breeding programs carried out at our public universities and research stations. But others favour private-sector involvement. These people argue that there need to be mechanisms that allow seed transnationals to recoup their investments. These people say that Plant Breeders' Rights legislation could be one such mechanism.

But surely the balance of power (and profit) between farmers and seed companies is already tilted *far* in favour of the companies. Monsanto's profits exceed the profits of all Canadian farmers combined. With seed contracts, patents, and Plant Breeders' Rights protections, seed developers already possess a mass of powerful tools that allow them to extract royalty payments and higher seed prices from farmers. There is no reason to further exacerbate the power and profit imbalance by bestowing on seed companies a broad array of powerful *new* royalty-collection tools. If the *PBR Act* is to be amended, it should not be amended to restrict farmers and to further empower and enrich the companies; it should be amended to do the opposite: In the midst of the worst farm income crisis in our history, Canadian legislators need to rebalance the power and profits within the seed system and within our food system.

The National Farmers Union looks forward to fruitful, multi-party consultations with the federal government and CFIA on ways to best fund Canada's plant variety development systems and ways to best restore prosperity to the families that produce Canada's food. And the NFU looks forward to the termination of active consideration of UPOV '91 as an appropriate model for funding Canada's plant variety development systems. UPOV '91 is a damaging failure and Canada must never adopt it.

***These analyses and recommendations respectfully advanced  
by the thousands of farm families who voluntarily make up  
the National Farmers Union.***