

On the Implications of the Schmeiser Decision

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The Crime of Percy Schmeiser

Let us first be clear on the crime for which Saskatchewan farmer Percy Schmeiser was found guilty.

He was found guilty of a) having Monsanto genetics on his land, and b) not advising Monsanto to come and fetch it.

He was not found guilty of brownbagging - obtaining the seed fraudulently. Indeed, all such allegations were dropped at the actual hearing, due to lack of evidence.

Regardless, in his 29 March 2001 decision (<http://www.fct-cf.gc.ca> (click on bulletins), Judge W. Andrew MacKay made it clear that how it got there it didn't matter anyway. The guilt was the same. Specifically, "Yet the source of the Roundup resistant canola...is really not significant for the resolution of the issue of infringement..."

It also didn't matter that Schmeiser did not benefit - at all - from the RR seed. In order to derive any economic benefit from growing RR seed, you'd either have to

sell it as seed, or

spray Roundup.

He did neither. He sold the crop as grain - not as seed, and he didn't spray Roundup. He acknowledges spraying Roundup around his telephone poles - a standard practice - which first alerted him in 1997 to the contamination in his field because some of the plants didn't die. Then, in typical farmer fashion, he got out his sprayer and made a couple of passes leading away from the road to see how far the contamination reached - total sprayed area was 3 ac out of the hundreds of acres sown in 1997. None of these points are disputed. No one - including Monsanto - argued that Schmeiser actually benefited - or even intended to benefit - from growing a crop contaminated with RR plants. But it didn't matter. He was guilty nonetheless, and fined \$15/ac x 1030 ac. Monsanto also seeks the value of his crop \$105,000, plus \$25,000 for punitive and exemplary damages.

He also lost the improved genetics resulting from his lifelong practice of saving his own seed to produce his own tailor-made variety of canola, as the crop was confiscated.

The harm that has been done to Percy and Louise Schmeiser, now in their 70's, is grievous. But of even greater concern is how this incomprehensible decision will affect all western Canadian farmers - regardless of whether they even grow canola, let alone GM canola.

The Problem(s) with Canola

Canola is a relatively primitive crop, and as such, retains many of the characteristics of a wild species. Unlike corn and wheat, which have been domesticated by over 10,000 generations of breeding,

canola pods mature unevenly, obliging farmers to cut and place the crop in windrows to allow the green seed to dry prior to combining

the dry pods also shatter upon maturity, dropping a fraction of the mature seed to the ground

the seed retains dormancy, meaning that especially under the reduced or no-till conditions favored in the prairies, the seed can remain dormant for 6-10 years, depending on the type of cultivar - Polish or Argentine, and

the seed can germinate anytime in the season - not just in the spring prior to seeding

Further, because the seed is very small, round, and smooth, it travels readily in the wind. It is not uncommon for windrowed canola to be picked up and blown over adjoining fields. Seed is known to be dispersed by haul trucks - either blown out the top if uncovered or falling off the exterior if not filled tidily. Schmeiser's contaminated fields are to the east side of a major haul road leading to Bruno, Saskatchewan, and the prevailing wind direction is west to east. The initial samples used by Monsanto to charge Schmeiser were actually taken from the roadside - not the sown fields.

Although canola is primarily a selfing species, outcrossing is in the range of 20-30%, and canola pollen can move long distances, several km at least, primarily via insect pollinators. The required isolation distance for hybrid canola seed is 800 m. Who is it that has to absorb the cost of installing an 800 m buffer between GM and non-GM crops on neighboring farms? Pollen has always moved - it did not start with genetic modification. But this is the first time we've called it **genetic pollution**, because the genes that move are proprietary.

To put these numbers into perspective, Alberta Agriculture has calculated that even at 0.2% outcrossing (with a neighbor's RR canola, for example), a crop yielding 25 bu ac⁻¹ with 3% shattering losses would deposit 10,000 outcrossed seeds ac⁻¹ or 4 outcrossed seeds per m² (<http://www.agric.gov.ab.ca/crops/canola/outcrossing.html>). And that is just the genetic pollution from a single season. The lengthy dormancy interval of canola allows the soil seed bank of contaminated seed to accumulate in the soil with each successive year's addition.

Land can be contaminated with proprietary seed in other ways. If you intentionally planted RR canola [or any other herbicide tolerant (HT) canola variety], shattered RR seed would contaminate your soil next year anyway, and the next, and the next. Emergence of 'volunteer'

canola in subsequent crops is nothing new in western Canada - but what is new is that the volunteer plants bear proprietary genes and are tolerant to one or more common herbicides.

You can also bring RR canola into your land inadvertently, as an unavoidable contaminant in your sown crop. Cross contamination of seed crops with GM seed is now so pervasive that seed companies will no longer guarantee "100% GM-free" even in the seed they sell to farmers, for any field crop that has been subject to genetic modification.

In the aggregate, these arguments explain the widespread occurrence of RR canola growing in places where it was never sown, and even where no canola has been sown, in western Canada.

The impossibility of reproductive isolation - both on-farm and post harvest - is nowhere better illustrated than the recent occurrence of contamination within Monsanto's own RR 'Quest' canola. Seed with an unapproved RR gene was found to contaminate bags carrying seed with the approved RR gene, obliging the urgent recall of thousands of bags of seed, some of which was already on-farm and being sown. This is just the latest example of cross contamination within the seed trade itself, of which StarLink contamination in the corn to be sown in 2001 is perhaps the best known example.

How then can farmers be held accountable for something which the seed trade itself cannot do?

Well, they can't, and even Monsanto knows it. So, Monsanto's position - which the judge inexplicably accepted - is that all the farmer has to do is call them up and they'll come out and deal with it. No matter how the proprietary genes got there, the judge held that the farmer is accountable for it, and they are obliged to inform Monsanto about it - or risk the fate of Schmeiser.

Between a Rock and a Hard Place

Now, this is an interesting conundrum. Put yourself in the position of a farmer. To appreciate the gravity of the choice on-offer, you need to appreciate how Monsanto's hired investigators operate. They come to the door, advise you that you're suspected of brownbagging, and offer you a letter stipulating what you must pay to avoid being formally prosecuted. Should you choose to pay the fee, you are also obliged to sign a letter which states that by signing, you agree to remain silent and tell no one about what has happened, or face further prosecution.

Let's say you know that you have one or more of Roundup Ready, Liberty Link, Navigator/Compas or SMART canola (tolerant to the herbicides glyphosate, glufosinate ammonium, bromoxynil, or some ALS inhibitors, respectively) on your land. You know this because, like Schmeiser, the plants didn't die when you used the corresponding herbicide. So - what do you do?

Do you call up the company (Monsanto, Aventis, Aventis, and/or Pioneer, respectively), inform them that you have infringed upon their respective patent(s), and ask them to come out for a visit - then hope they arrive with a sprayer and not a subpoena? If the latter, no one will ever know,

will they? Or do you wait for a neighbor to report you for suspected brownbagging, using the anonymous hotline set up by Monsanto for that purpose?

If the respective compan(-ies) come out and actually do spray out the offending plants, do you call them back again a few weeks later, when late germinating canola has emerged in your wheat or pea crop? How is it that they are going to eradicate these late germinating, potentially seed bearing HT plants, in your established crop? Will they compensate you for damage done to your crop in the process, or from spray drift (a particular problem with the herbicide of choice, 2,4-D) to your adjoining crops - or your neighbor's?

What if it was canola you were intending to plant in the contaminated field? You know that you will not be able to distinguish volunteer HT canola from whatever canola you've planted. You know that volunteer HT canola will set seed and shatter, just like your sown canola, re-contaminating the land with patent-infringing seed. By definition, if you grow canola on land known to have HT canola in the seed bank, your problems will necessarily amplify over time. Where you had one HT plant this year, you could have dozens next year. So - do you abstain from growing canola entirely? For how long, given that fresh contamination can occur annually?

Or do you take responsibility yourself for eliminating the proprietary plants? Do you adjust your crop rotation, your herbicide expenditures - and your bottom line - to cope with contamination that you did not want and could not stop, and that will reoccur annually so long as neighbors choose to grow HT canola?

Like the StarLink debacle which continues to haunt US corn growers, marketers, consumers, government officials, and the seed trade itself, the guilty verdict in the case of Percy Schmeiser illustrates some of the shortcomings of applying GM technology to field crop agriculture. Far from making food cheaper, GM technology will necessarily make food more expensive - and particularly - but not solely - for those who have chosen not to grow GM crops.

Why should non-GM growers be obliged to adjust their rotation and herbicide schedules and field design in order to protect their own crops from contamination from neighboring GM crops?

Why should non-GM growers have to absorb costs of coping with gene flow that is unwanted, involuntary, and unavoidable - or face prosecution?

Why should those who have managed their crop specifically for the high-premium GM-free market be forced to lose the premium because of contamination from neighboring land?

Why should any farmer be forced to accept GM contamination in the seed they sow on their own land?

Why should taxpayers be obliged to support the mushrooming government infrastructure needed to monitor, regulate, and negotiate to keep GM crops in the marketplace, and the virtually endless costs of recalling contaminated seed and food products from the market?

Why should consumers have to pay more for food that is worth no more (and arguably, **less** to them) because the costs of dealing with unwanted GM both on the farm and in the marketplace must, necessarily, be passed on to the consumer?

Why should **all** growers be penalized by plummeting crop prices incurred because a minority of growers chose to grow GM, causing traditional clients to refuse to buy GM-contaminated grain and instead to patronize off-shore sources?

Since when do importing countries have to buy GM grains, just because we want to grow them?

What happens when the traits that move are not HT, but vaccines, pharmaceuticals, plastics, and industrial enzymes?

When is the Canadian government going to stop promoting the commercialization of a technology which has so clearly been released prematurely into the marketplace, and which so clearly externalizes its true costs of production involuntarily and unavoidably to its own citizens?

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