The G in

Small groups of genetic engineers working for multinational companies, with little or no democratic control, determine the genetic composition of crops all over the world. Is this a science fiction movie scenario? No. Two Canadian farmers, Percy and Louise Schmeiser, have had a long fight in court to defend their right to grow their own crops. Farming Matters talked to Percy Schmeiser about farming and his uneasy relation with seed companies.

Interview: Frank van Schoubroeck

"The first time in my life I heard about GMOs was in August 1999, when I got a letter ordering me to pay Monsanto for the use of 'their' seed material"

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vasion: We're losing our local breeds

We live in Bruno, Saskatchewan, in the prairies of mid-west Canada. For people from Europe or Asia, Saskatchewan is a vast area, where farmers need cars to visit the other end of their farm. In 1946 my wife and I took over the farm from my father. Most farmers in the area were growing wheat in those days, but we were part of a small group of farmers who were growing rapeseed, or canola, as we call it, growing it in pockets up to 30 km apart. At the time canola was vulnerable to black leg and a pod rot, and it was common knowledge that you needed rotation intervals of four-years. My wife was a canola breeder and she managed to gradually increase the crop's resistance. By the 1980s she had developed varieties that were resistant to these diseases, and we didn't need to rotate crops anymore. In the 1990s our neighbours were also changing over from wheat to canola. I was not a full-time farmer, as I also worked as an elected member of the provincial parliament and, for some time, as a mayor. So we were active members of our community.

So you successfully bred locally-adapted canola crops. Then, what happened?

In the 1990s, different companies started to promote the idea of genetically modified crops. They were telling an optimistic story: through the new GM technologies they could breed varieties that would need fewer pesticides, and would have higher yields and be more nutritious than ever. They presented genetic engineering as the way forward to reduce hunger. We farmers and politicians took the story as it was told to us. We did not know how threatening GMOs were going to be to our farming systems.

What happened in Bruno?

In our area, Monsanto organised "informative meetings" with selected farmers. They were given samples of GMO seeds on the condition that they did not disclose that they had participated in these meetings. These farmers were told the same story: that GMO seed would reduce the need for chemicals and that overall yields would be higher. The farmers then planted GMO seeds in many different pockets of our province, without the local government or even their neighbours knowing about it. My neighbour happened to participate in such a meeting

and planted GMO canola in his field as well. The next thing we knew was that we received a letter from Monsanto claiming that we were using "their" varieties in our fields. Canola is an open pollinator and pollen (or maybe even seeds) from our neighbour had entered into our fields. We were accused of illegally planting their crop and charged with US$ 15 an acre for using their technology. This was the beginning of an on-going legal battle between the company and us.

What struck you most in this case?

Since 1999 this case overtook our lives. The story is a whirlwind of events that shows the ruthless ways companies try to get control over and earn money from ordinary farmers like us. The absurdity of the story is difficult to comprehend. In short, the company took seeds from our crops, and started putting one or two foreign genes in it. After having put in such genes, the company takes out a patent – and next the variety is exclusively theirs! This is absurd enough, but then a farmer plants this new breed, and the pollen spreads within the area, like into our fields. Even if just a small fraction of the plants carries the engineered gene, the company can claim rights over this crop! We refused to pay, and the result was that the company dragged us to court.

How did your fellow farmers react?

We have no ill feelings for the neighbour who planted the GM seeds. He never intended to bring this story into our lives. We are still good friends – our children play hockey together. Farmers who planted GM canola had to sign a contract that they would not pass on GM seeds and that they would pay fees for using GM seeds in subsequent years. The company asked people to report farmers who were "illegally" planting GM seeds. They would offer people free chemicals or a Monsanto leather jacket for such reports, even money in some cases. All of a sudden, we didn't know anymore if the person we were talking to was going to report what was happening to the company. In small communities such as ours, such ways affect the social fabric. Now, as we say, instead of "agri-culture", we are practising "fear-culture". I can tell you that not many people wear Monsanto jackets these days!

This is a story in Canada. Would seed companies be able to do the same in the developing world?

Since the start of this story in our fields, we have travelled all over the world to talk about our case and to learn more about the application of GMOs elsewhere. I am not a specialist, but what I understand from cases in India and Africa is that there are many ways through which companies gain control over farmers and force them to pay for "their" seeds. For example, in micro-credit schemes, farmers get credit in the shape of chemicals and seeds that are genetically engineered. If you fail to pay for the seed, next time you get no credit. When GMOs spread naturally, companies might claim ownership over entire crops, as we have seen in our case. Companies might introduce "terminator" genes forcing farmers to buy seeds every year. We have seen the chemical treadmill with the Green Revolution: you need to apply more and more chemicals for the same yield. Poor farmers then have no other option than to pay, even if he or she does not want to grow GMOs. I am a Canadian farmer who could drag a company to court - but how could a poor farmer ever do that?

The scary thing is that engineered genes quickly spread. Within a decade after their introduction, often over 90 percent of fields in an area might be infested. Buffers don't help. In Europe they used to talk about the co-existence of GM and non-GM crops by creating obligatory buffers of 30 metres – although GMO pollen can easily be carried for miles! Everybody who plants a GM crop knows that he or she is infesting their neighbours' fields. Here in Saskatchewan, indigenous people grow wild rice in natural lakes. They are afraid that their wild rice populations will soon get infested with GMO genes.

What's the problem with crops that contain new genes? The recombination of genetic material has been going on for millennia...

Traditional breeding resulted in varieties fit for

"We have entered this path but do not know where it will lead us"

agricultural fields that did not threaten wild populations. GM genes spread more aggressively. For example, Bt genes inserted in a crop make the plant produce a pesticide that kills some pests. Normal pesticides are tested for health hazards and sometimes forbidden on these grounds and in the same way prescribed drugs are sometimes forbidden because after some years people find out that they have side-effects. Suppose we find out that the chemicals produced by GMOs cause human diseases, for example if they slowly build up in your body. By then the genes will have spread to all crop populations – including organic and wild ones. Then it will be too late to decide and say: let's do away with the GM crop. That's what scares me most: that we have entered this path but do not know where it will lead us, and there is no way back. Companies are not applying precautionary principles. Luckily, the American Society of Medical Doctors recently supported a ban on GMOs – years after organisations in Russia, England and Germany did the same.

What would you advise to farmers and policy makers in developing countries?

First I would say: don't let GMOs enter your country. It's a one-way track. Second, be careful about farmers' rights vis-à-vis seed companies. The company that introduced GM canola to our area did so with one goal: to gain control over farmers' fields and make huge amounts of money. They do not develop new seeds to reduce pesticide use. They have shareholders, whose goal is to make as much money as possible, so companies are never motivated by developing technology that will be cheaper or more efficient to farmers. Thus, it is very important that farmers keep control over the crops they grow in their fields, based on the material of their choice. So let the Lord help us to avoid companies getting control over the seeds that farmers use.

More information

For more information on the Schmeiser-Monsanto case, visit www.percyschmeiser.com

GM cotton captures India and Africa

Genetically Modified (GM) cotton was introduced in India and South Africa in the early 2000s, and now more than 80 percent of the cotton grown in both countries is GM. This happened mostly because of carefully planned seed sales, with a strong government support. At the same time, it has been seen that cross-pollination introduces foreign genes from GMOs into traditional cotton varieties, even if cross-pollination in cotton is relatively low, and GM seeds mix easily with local varieties at the gins.

Do GM cotton strains serve farmers better than traditional crops? This depends on the variety that is genetically modified. If the original variety wasn't fit for a certain farm, the GM strain will not yield well either. Good soils and regular rain help the new genes in GM cotton plants to produce more anti-insect toxins. In areas with a high presence of pests, GM varieties do better than their traditional counterparts - but these plants remain vulnerable to other pests. As a result, more pesticides are sometimes used in GM than in traditional cotton fields. Environmental and long-term health effects are still unknown.

What's the problem for family farmers? The most important issue is that farmers have no choice. Whether you like it or not, your crop will get contaminated with transgenic material. There are regulations in place in most countries to avoid such contamination, but they are rarely effective. Even countries that oppose the introduction of GM cotton are not free from the newly introduced genes. This means that the breeding agenda of a few multinationals determines the genetic composition of crops in farmers' fields, even if they do not want it. And the greatest problem is that, once introduced, these genes will persist in the ecosystem. There is no turning back. (FvS)


Photo: Mans Lanting