



Issue Paper 6

GM crops and patents – the Schmeiser case

A Canadian farmer named Percy Schmeiser, was found guilty in June 2000, by the Federal Court of Canada, of growing genetically modified (GM) Roundup Ready® canola without a licence, thereby infringing patent law.

Since the ruling, Mr Schmeiser has travelled around the world telling his story, which is often portrayed in the media as a 'David versus Goliath' struggle. The following provides details of the court case and rulings from the Federal Court of Canada.

Genetically modified canola

Genetically modified herbicide tolerant canola has been grown commercially in Canada since 1995, and constituted almost 75-80 per cent of the Canadian canola crop in 2000. In that year, 20,000 Canadian growers grew Roundup Ready canola.

Roundup Ready canola has been genetically modified using a gene from a bacteria, so that it does not die when the glyphosate herbicide Roundup® is applied. Herbicide tolerant crops have the potential to increase weed control options for farmers, and reduce tillage and herbicide applications.

Licensing GM canola – the Canadian example

In Canada, Monsanto licences commercial seed growers to grow Roundup Ready canola for seed purposes. For growers to access Roundup Ready canola seed, they must attend a Grower Enrolment Meeting, where the technology and licensing terms are explained to them, and they sign a Roundup Ready grower agreement in order to purchase the seed. Upon purchasing the seed, growers must sign a Technology Use Agreement (TUA).

The TUA allows the technology developer, in this case Monsanto, to protect its patent and explain the conditions of use. Under the Canadian Roundup Ready canola TUA, the grower is certified to use the seed for one crop, and they agree not to sell or give that seed to another party and/or use it for future replanting. If they do not follow these conditions, they may be infringing copyright of the technology incorporated into the plant from the genetic modification process.

The TUA also gives Monsanto the right to inspect the fields of the contracting farmer to ensure they are operating within the terms of the agreement.

Percy Schmeiser and contamination claims

Percy Schmeiser farmed in Saskatchewan, Canada for almost 50 years, and has grown canola for most of this time. He has never purchased GM Roundup Ready canola, and has therefore never signed a TUA.

In providing details of his farming practices Mr Schmeiser claimed he purchased conventional canola seed in 1993, and saved a portion of the seed until 1999, for resowing each season on his 1030 acres (approximately 416 hectares).

During the court proceedings, Schmeiser did not deny the presence of Roundup Ready canola in his fields in 1998. Instead he claimed that his conventional canola was contaminated with seed from a neighbouring GM crop and that canola seed had been carried onto his land by the wind, bees, grain trucks and farm equipment. It was noted during the trial that the nearest farm growing GM canola was about 10 kilometres from the Schmeiser property. A farmer did however testify that he had lost GM seed from his truck on two occasions while passing the Schmeiser farm.

Expert evidence put forward by Dr Keith Downey, Research Scientist Emeritus at the Saskatoon Research Centre, states that none of the contamination sources suggested by Schmeiser could reasonably explain the concentration or extent of Roundup Ready canola of a commercial quality evident in his crop.

Dr Downey concluded that the seeds provided to him from Schmeiser's crop demonstrated that the canola plants growing were not the result of pollen movement or outcrossing, rather that the "the high percentage of glyphosate [Roundup®]-resistant plants ... indicated they were grown from commercial Roundup Ready canola seed."

Mr Schmeiser testified that he planted his canola crop in 1997 with seed saved from the previous year. He claimed that he first noticed parts of his canola crop were resistant to Roundup® in 1997 when he sprayed Roundup® herbicide to kill weeds and re-growth, and saw that much of the re-growth (volunteers) survived. He then sprayed some three to four acres of his crop in one particular field to further determine why the plants had survived. Approximately 60 per cent of these plants also survived.

Mr Schmeiser did not notify Monsanto of the result, instead he harvested the field with the rest of his crop and used some of the seed for replanting the following season.

Ownership of the crop

Mr Schmeiser's lawyers argued during the court trial that, "by the unconfined release of the gene into the environment Monsanto had not controlled its spread, and did not intend to do so, and they have therefore lost or waived their rights to exercise an exclusive patent over the gene."

The judge said, "A farmer whose field contains seed or plants originating from seed spilled into them, or blown as seed ... or even growing from germination by pollen carried into his field from elsewhere ... may own the seed or plants on his land even if he did not set about to plant them. He does not, however, own the right to the use of the patented gene, or of the seed or plant containing the patented gene or cell."

In claiming that Monsanto did not have the right to patent a crop which it could not control and had no intention to do so, Mr Schmeiser ignores several facts according to the judge, including efforts by Monsanto to:

- implement licensing arrangements to limit the spread of the gene;
- monitor authorised growers and any it considers might be growing the product without authorisation;
- undertake sampling and testing of crops of those who are believed to be growing the crop without a licence; and,
- remove plants from the fields of other farmers who complained about the presence of Roundup Ready canola in their fields.

Use of the patent

Mr Schmeiser's lawyers claimed that he did not infringe the patent because he did not utilise the crop potential (the patented gene) by spraying his 1998 canola crop with Roundup® after it had commenced growing.

The judge ruled that, "In my opinion, whether or not the crop was sprayed with Roundup® during its growing period is not important. Growth of the seed, reproducing the patented gene and cell, and sale of the harvested crop constitutes taking the essence of the plaintiffs' [Monsanto's] invention, using it, without permission. In so doing the defendants [Schmeiser] infringed upon the patent interests of the plaintiff".

Farmer right to save seed

Mr Schmeiser routinely saved a portion of the canola harvested on his property to serve as seed for the next generation of crops. He argued that if he was found guilty of infringing the patent, it would "adversely affect the longstanding right of a farmer to save his own seed for use for another crop...[because]...those who do not purchase Roundup Ready canola seed but find the plant invading their land would be precluded from saving their own seed for use another year".

The judge ruled that this was clearly not the case with Mr Schmeiser. "His infringement arises not simply from occasional or limited contamination of his Roundup® susceptible canola by plants that are Roundup® resistant. He planted his crop for 1998 with seed that he knew, or ought to have known, was Roundup® tolerant."

Audits and testing

Monsanto undertook random audits of canola crops growing in Saskatchewan in 1997, and during this time they sampled canola from the Schmeiser farm after they received an anonymous call that he was growing the GM canola without a licence.

Testing revealed the high presence of Roundup Ready canola. Mr Schmeiser was advised of this result but says he "did not treat seriously the concern raised".

Further tests on seed samples taken from the Schmeiser farm and from the mill where Mr Schmeiser treated his seed for sowing were conducted by experts from Monsanto, the University of Saskatchewan, the Saskatoon Research Centre, and the University of Manitoba as well as by Schmeiser himself.

Test results varied, but revealed that anywhere between 63 and 100 per cent of the seeds germinated from the Schmeiser farm contained the gene patented by Monsanto. Only the tests conducted by Schmeiser in his own yard, and tests on these same samples by a researcher at the University of Manitoba, did not support this result.

However, testing of Schmeiser's seed samples from the mill where he had taken his seed for pre-sowing treatment, commissioned by Schmeiser himself, found that 95 to 98 per cent of the germinated seedlings survived. A result identical to that obtained by Monsanto.

The ruling

Canadian patent law does not require a patent holder (in this case Monsanto) to prove that an alleged infringer knew or even ought to have known about the reproduction of a patented invention. However, in this case, the judge ruled that Schmeiser had planted canola seed saved from his 1997 crop, which he knew or ought to have known, was herbicide tolerant, and that he had knowingly reproduced the patented plants and cells by using this seed to plant his entire 1998 crop. By then selling the seed harvested in 1998, Schmeiser further infringed the patent.

Schmeiser was ordered to pay the court costs in excess of \$150,000.

Schmeiser lodged two appeals against the initial decision, however the Supreme Court of Canada upheld the original finding in 2004 ruling that Mr Schmeiser was guilty of patent infringement.

The patent system is designed to provide an incentive to innovation, so that those who have invested money on research and development are given the opportunity to make a return on their expenditure. A patent is a limited, fixed term monopoly granted by the government to the inventor. It gives the patentee (the inventor) the exclusive right to make, use, or sell the invention, as long as the patent lasts. The patentee may choose to do this (to "work" the invention) themselves, or they may grant licences to others to do so. The patent confers the right to take legal action against parties who make or use the invention on a commercial basis, or who sell the invention, without the permission of the patentee.

In Australia

Monsanto Australia has stated publicly that "It has never been, nor will it ever be, Monsanto Australia's policy to exercise its patent rights when there is adventitious presence of a Monsanto's technology in a farmer's crop, as a result of inadvertent or unexpected acts. Monsanto would only consider pursuing an action for patent infringement where the farmer in question was seeking to benefit from the technology without obtaining a licence/technology user agreement."

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Further information

The information contained in this fact sheet is largely sourced from the court proceedings below.

- For the detailed June 2000 court case: <http://decisions.fct-cf.gc.ca/en/2001/2001fct256/2001fct256.html>
- For the May 2002 appeal case: <http://decisions.fca-caf.gc.ca/en/2002/2002fca309/2002fca309.html>
- For the May 2004 appeal case: <http://scc.lexum.org/en/2004/2004scc34/2004scc34.html>