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Farming's New Feudalism

By Robert Schubert

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Farming's New Feudalism

Percy Schmeiser and Other Casualties of Industrial Agriculture's Drive to Own It All

By Robert Schubert

Like thousands of others in southern Germany in the late 19th century, Karl and Anna Schmeiser worked long, hard days farming a baron's vast tracts of land to keep a roof over their heads and food on the table. The baron owned the land, the draft animals, the equipment, and most of the crop—more or less as barons before him had since the Middle Ages. Also like thousands, Karl and Anna dreamed of a better life, and in 1890 they scraped together every last pfennig and left Germany forever, taking ship to the United States. Seeking cheap land and independence, they eventually moved northward to the prairies of western Canada, settling in Saskatchewan in 1904.

A century later, the land is no longer so cheap. The independence Karl and Anna found is threatened too, as grandson Percy Schmeiser and his wife Louise discovered in 1998. That's when Monsanto Corporation sued them after their canola seed was found to contain the company's patented, herbicide-resistant genes.*

The case generated worldwide headlines, and an

uncertain future for many farmers. Although the Schmeisers ultimately didn't have to pay Monsanto, the courts did find them guilty of patent infringement. The fact that a transnational corporation would persecute small farmers is troubling to many, and shows the depth and breadth of a decades-long transformation: the steady erosion of farmers' practice of developing and saving seeds. "Neither I nor my parents or grandparents ever envisioned farmers losing control of their seed," Schmeiser says.

Moreover, that's just the tip of the canola stalk. The privatization of seed is but one part of the steady consolidation of economic power throughout agriculture. Large agro-industrial and retail corporations have now secured toeholds in every phase of the farming cycle: they own seed and seed patents, they control processing facilities, they dominate the retail sector, and they have even moved into financing farmers' operations. It's as if the barons have arisen from the grave and brought the old feudal system back with them. The corporations that control poultry and hog farming have already reduced many livestock farmers to contract labor, and grain farmers like Percy Schmeiser seem headed for the same fate.

* For more about the case, see *World Watch's* interview with Percy Schmeiser, January/February 2002.

Patenting Profits

Until recently in its 10,000-year history, agriculture was more a way of life than an industry. Farmers were the seed producers and the guardians of societies' crop heritage. But by the early 1900s, the U.S. and Canadian governments began promoting the development of large export-oriented agriculture industries based on only a few crops and livestock species. To maximize uniformity and yields, seed breeding moved off the farm and into centralized public research centers, such as U.S. land grant universities. Variety development became commodity-oriented.

Scientific advances in the 1970s and '80s heralded a new era in agriculture. To boost flat sales, Monsanto and other agrichemical companies ventured into genetic engineering and transformed themselves into the biotechnology industry. They bought out traditional seed companies and engineered their herbicide-resistant genes into the newly acquired seed lines. Although the lower-cost, traditional seed lines simultaneously became less available, to maximize profits the industry needed farmers to buy new seed every year instead of saving it.

This was a new arrangement. In the past, the public institutions in North America that bred seed varieties enjoyed a measure of intellectual property protection under the U.S. Plant Variety Protection Act or Canada's Plant Breeders' Rights Act. The institutions licensed companies to sell the seed to farmers and usually claimed a royalty. Farmers were permitted to save successive generations of seed for planting on their own farms. Arguably, this was a fairer system, but hardly profitable for a multinational biotechnology industry busy absorbing seed companies.

Patents changed this relationship. When coupled with contracts that enforced the patent rights, they provided the means of legal control over seeds needed to increase profits. The U.S. Patent and Trademark Office began issuing patents for genetically modified organisms, and later for seeds, in the 1980s and has granted more than 2,000 (for both genetically modified and conventional varieties) since 1985. Monsanto and the other companies' aim, according to Devlin Kuyek, a researcher with the NGO Genetic Resources Action International, was "proprietary control of seeds as a way to build new markets and secure their positions in a restructured global agri-food system." That transition could only be fully realized through commodifying seed, "the use of biological means, such as genetic engineering, and social means, such as patents, to prevent seed saving practices and guarantee monopoly rights over seeds." The strategy has been especially successful for Monsanto, which may already control as



Janet Hamlin

Percy Schmeiser

much as 90 percent of crop germ plasm (the hereditary material, or genes) in the United States, according to Neil Harl, a retired agricultural law and economics professor at Iowa State University. (Monsanto argues that growers do have a choice, and that hundreds of thousands of them are using the company's technology in various crops and are satisfied with it.)

Contracts are also used with non-patented seed varieties. Saskatchewan farmer and writer Paul Beingssner points to two new public, non-patented wheat varieties. The public institution that developed the seed, which is protected under Canada's Plant Breeders' Rights law, licensed it to a private company, Quality Assured Seed, to multiply and sell to farmers. However, farmers wishing to grow this wheat must agree contractually not to save successive generations of seed, but instead buy new seed yearly. And they have to deliver the wheat crop to Pioneer or Cargill.

With the profitability of seed increasing over the last 15 years, largely because of patents and contracts, the money and incentive for public institutions to develop new varieties are declining. Farmers also are saving less seed. With the introduction of genetically modified soybeans, for example, the rate of U.S. soybean seed saving dropped from 31 percent in 1991 to 10 percent a decade later (in terms of total acreage planted with saved seed), according to Michigan State University professor Lawrence Busch. He estimates that change yielded an additional \$374 million in seed industry profits in 2001. Percy Schmeiser's own back-of-the-envelope arithmetic leads him to believe the whole set-up is quite profitable for Monsanto. Exhibit A is Monsanto's patented Roundup Ready canola seed, a genetically engineered variety designed to tolerate glyphosate, the active ingredient in the company's Roundup brand

herbicide. In 1998 (the year Monsanto sued the Schmeisers), Monsanto's technology fee was C\$15 (about US\$12) per acre, seed was C\$25 per acre, and Roundup was about C\$9 per acre, for a total of about C\$49 per acre. In contrast, the grower of a conventional variety paid about C\$15 per acre (C\$5.50 for seed and C\$9–10 for chemicals). Schmeiser's total costs were even lower (C\$5) because he saved the seed that he and Louise had developed over decades. In 2003, according to Devlin Kuyek, Monsanto was ranked third in pesticide sales (nearly US\$3.1 billion) and second in seed sales (US\$1.6 billion).

Monsanto vs. Schmeiser

So there's a lot at stake, which explains why the industry has taken off the gloves.

To protect its Roundup Ready genes in soybeans, corn, cotton, and canola, Monsanto has investigated hundreds of farmers for patent infringement or breach of contract. It has sued 90 farmers in 25 states and won over \$15 million in judgments, according to the Center for Food Safety, a Washington, D.C.-based NGO. Monsanto sued the Schmeisers after seeds from their canola harvest were found to contain the genes. After losing at the trial and appeals court levels, Schmeiser, who has always maintained his innocence, took his case to the Supreme Court of Canada. Last May the high court ruled that he had infringed the patent on the gene because it was present in the seed from his canola field.

The decision reaffirmed that while genes and cells are patentable under Canadian law, seeds, plants, and other higher life forms are not. Obviously the gene and cell are part of the seed and plant, however—which might suggest that Monsanto is trying to extend the reach of the patent. (Schmeiser's lawyer, Terry Zakreski, made that argument without success.) But in a 5-to-4 decision, the justices ruled that Schmeiser owed Monsanto none of his profits because he had not made money from its patented invention: "Their profits were precisely what they would have been had they planted and harvested ordinary canola.... Nor did they gain any agricultural advantage from the herbicide resistant nature of the canola, since no finding was made that they sprayed with Roundup herbicide to reduce weeds. The appellants' profits arose solely from qualities of their crop that cannot be attributed to the invention." Surprisingly, given that Schmeiser lost, the Supreme Court also ruled that he didn't have to pay Monsanto's legal expenses. (All he has to do is pay his own C\$400,000 legal bill.)

Agricultural law professor Roger McEowen, Neil Harl's successor at Iowa State, believes the ruling set

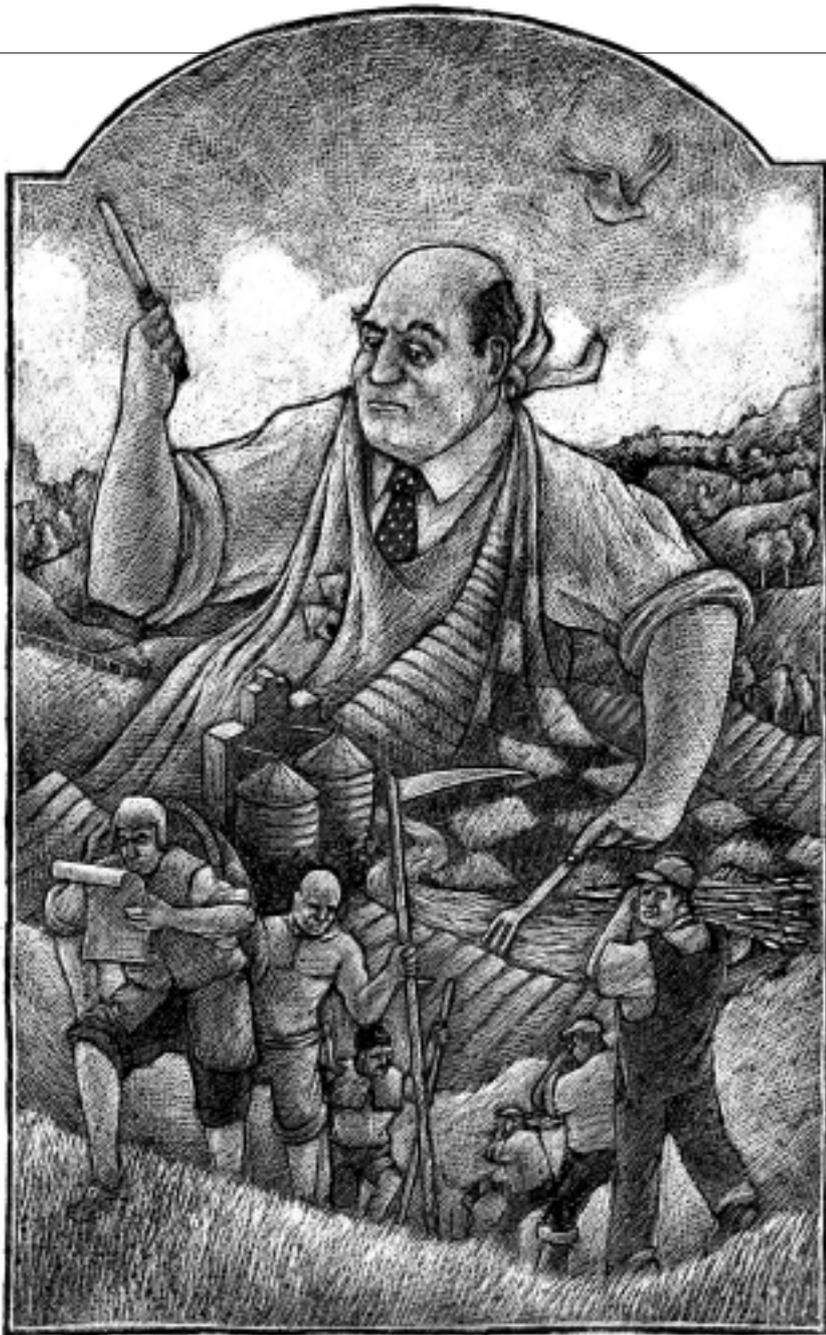
the stage for a future "innocent infringement" defense that could hinder Monsanto's ability to capture revenues from its technology. Monsanto disputes that interpretation. All one need do, says Monsanto Canada spokeswoman Trish Jordan, is read Paragraph Two of the decision to understand that the justices weren't concerned with accidental or innocent infringement: "In reaching this conclusion, we emphasize from the outset that we are not concerned here with the innocent discovery by farmers of 'blow-by' patented plants on their land or in their cultivated fields." The key feature of the Court's decision, Jordan says, is that it declared the patent valid.

While McEowen agrees that innocent infringement was not the issue in this case, he says altered circumstances likely would have changed the outcome. Percy Schmeiser learned that the stray canola plants growing in ditches and around power poles on his property contained Monsanto's genes when they didn't die after a shot of Roundup, yet he saved and replanted seed from his harvest without informing Monsanto. In short, he "used" the invention without permission, and so was not an "innocent" infringer. But what if he'd been unaware that the genes were present in his canola (or knew and immediately called Monsanto), and the company sued him anyway?

Part of the answer lies in the paragraph Jordan mentioned, McEowen says: "The justices were foretelling that had the facts involved been a case of innocent infringement, the outcome might well have been different, and that point is bolstered by subsequent language in the Court's opinion. As a result of this case, Monsanto's patent is not as ironclad as they thought." This argument is bolstered by a U.S. case, in which a federal appellate judge's opinion used a hypothetical patented corn to describe the ease with which a self-replicating organism could lead to inevitable patent infringement. In light of these two cases, McEowen thinks Monsanto eventually will have to back off unless it can muster solid evidence of intentional infringement. Some farmers, unwilling to risk going to court, will sign the technology user agreements and get on board. The rest will need to document seed purchases and cultivation and harvesting practices to show they didn't deliberately infringe on the patent.

Contracting Options

Agribusiness consolidation in seeds, chemicals, and meatpacking is one effect of the structural economic transformation since World War II that emphasizes global free trade. But allowing consolidation to proceed unchecked eventually leaves farmers with few



sources for inputs (such as seeds) and few buyers for their crops or livestock. The fewer buyers there are, the more effectively they can set prices (a condition called monopsony)—and of course they will want prices low. The result, for farmers, is debt: too little income compared with expenses. “Farmers got more for a bushel of wheat in 1978 than they do now, yet no one wants to talk about the increased costs of inputs, so no wonder they can’t make it,” Schmeiser says.

Debt is driving many farmers off the prairies of western Canada. Schmeiser divides the farmers into three categories. One-third, including himself, has no land- or machinery debt. One-third has debt, but it’s manageable. The final third of farmers owes money for land, machinery, and other things as well. They are the ones losing their farms. With fewer farmers on the land, the knowledge base is declining, replaced by cor-

porate interests that advise yet more purchases of expensive technologies and inputs. Those will help commodity crop growers produce an even bigger supply of food and feed that further drives down the prices they receive.

The story is similar in the United States. According to the University of Tennessee’s Agricultural Policy Analysis Center, since the late 1980s “government’s official policy has been to permit, even encourage, a free fall in domestic farm prices while simultaneously promoting rapid liberal trade measures to open new markets for U.S. products.” The prices farmers have received for a number of commodity crops have plummeted some 40 percent since 1996, sometimes providing “agribusiness and corporate livestock producers access to agricultural commodities at below the cost of production, consolidating their control over the entire production and marketing chain.” The government is using taxpayer dollars to pay producers enough to at least break even, in effect subsidizing cheap grain. But they’re also effectively subsidizing expensive inputs, such as the patented biotech seed mentioned earlier.

With U.S. budget deficits running high, the government has come under pressure to reduce income support payments (subsidies) to farmers. According to media reports, the Bush administration has proposed cutting the agriculture budget by 5 percent, including an approximately 30-percent decrease in payments any one farmer could receive. However, agribusiness’s desire for cheap grain and livestock won’t diminish, nor will their sway over policymakers, argues Roger McEowen. With less support from the government, more farmers will deem it necessary for economic survival to enter contractual agreements (already a long-standing trend in the Canadian and U.S. poultry and pork industries).

Contracts per se are not necessarily bad, but problems emerge when heavy consolidation eliminates bargaining power, often resulting in one-sided arrangements favoring powerful companies. Such con-

solidation is well under way throughout agriculture. In the United States, for instance, nearly two-thirds of pork packing is controlled by four companies, according to data compiled by Mary Hendrickson and William Hefernan of the University of Missouri. Corporate market power is similar in the grain sector. McEwen says farmers could see realistic marketing opportunities for their corn, soybeans, or wheat limited to grain elevators operated by Archer Daniels Midland (ADM) or Cargill, the two biggest U.S. flour milling companies. (ADM is also the biggest U.S. soybean processor.)

The contract constraint is also edging into farmers' financing. According to Neil Harl, the fewer (but bigger) companies left in various sectors of agribusiness, through subsidiaries and partnerships, increasingly can offer farmers better terms for financing their entire operations than local banks. "It's clear that, over the long term, capital increasingly will be provided along with inputs over which the supplier has a monopoly position," Harl says. "The general trend is toward the integrators controlling a patented item that the [farmer] wants, usually seed, and then bundling that with other inputs. The muscle of the firm that has the seed is greater now than those can be patented."

Monsanto, Pioneer, Cargill and other companies offering such financing packages generally agree to unbundle them at a farmer's request. Failure to do so would be a step over the line into a "tying contract" that is illegal in the United States. However, farmers experience a number of pressures to opt for bundled contracts. Fellow farmers, seed and input sellers, equipment dealers, and others may tell them that a contract is the best way to go—peer pressure, in short. Some farmers, in deep financial trouble, can't afford to buy inputs, so they opt for a production or marketing contract that offers less risk and a guaranteed return (depending on the terms of the contract, of course.)

Still others simply don't like marketing and see contracts as a means of avoiding it.

Harl emphasizes that farmers must read these contracts, including the fine print. Some don't. Percy Schmeiser recently met a sadder-but-wiser farmer who had contracted with a company to supply most of his seed, and all the fertilizer, chemicals, and fuel. He harvested the crop and delivered enough of it to the company's elevator to pay the value of the loan for the inputs, intending to sell the rest to other buyers offering a higher price. But the contract called for him to deliver all his crop to the company at its price. This is but one case of farmers signing away the rights to market their harvests and, increasingly to decide how they grow the grain, he says.



Christopher van Es

For farmers, the world is closing in and options are disappearing. Biotech crops, for instance, are clearly a bad deal in many ways—farmers can't save the seed, they risk litigation from drifting patented traits, weeds are developing herbicide resistance, and important markets may decline to buy biotech food. So why are so many choosing to plant them?

To stay competitive. Grain processors want to buy soybeans, corn, and wheat as cheaply as possible—and in a free-trade world, they can just as easily buy from Brazil or China as they can from Canada or the United States. Farmers respond by trying to compete on volume, growing as much as possible to overcome low prices. And Roundup Ready soybeans are easier to manage, which allows farmers to farm more acreage with the same amount of labor and equipment, says Indiana farmer Troy Roush.

“The trouble is, there is only a finite amount of land available, so this puts fellow farmers at each other's throats as we seek to rent and purchase additional land,” Roush says. “What used to be a tight, vibrant, functioning community is reduced to petty fighting for land.” When one of Roush's neighbors called Monsanto and accused him of illegally saving seed, the company sued. “[It] cost us \$400,000 by forcing us to defend a baseless claim by Monsanto. So the next time a farm comes up for sale, we may not be as competitive. The end result is a destruction of the social fabric of rural America. All because multinational corporations hold patents on life.”

Concentration Is Not a Game

Roger McEowen recommends some remedies for what ails agriculture. First, return to a policy of managing supply, of producing only what is needed for the marketplace. This would eliminate costly surpluses that drive down the prices farmers receive and which waste natural resources better preserved for future generations. Second, replace welfare-style income supports (subsidies) with price supports. Long a part of U.S. agricultural policy before their elimination in the 1996 farm bill, price supports worked much like the minimum wage, establishing minimum prices for farmers' crops. Buyers were legally required to pay at least that amount, but before rampant consolidation, more buyers in the market meant the producer prices were often bid upward, so farmers actually made money.

According to Devlin Kuyek, the top 10 biotech companies controlled about one-third of the global seed market; four companies controlled 86 percent of the corn seed market and 49 percent of the soybean seed market. That's why Neil Harl thinks it's also crucial to

enforce anti-trust laws: “We have towering concentration on the input side and towering concentration on the output side, which is a problem. Does this country want producers to be transformed into serfs or does it want them to be independent entrepreneurs? If it's the latter, then we must work toward meaningful competition...and it means effective anti-trust policy.”

Corrective or preventive measures of some kind are needed worldwide, because increasing corporate control of the seed industry and the associated decline of seed saving isn't restricted to Canada and the United States. The worldwide commercial seed market is \$23 billion, says Hope Shand of ETC Group, a Canadian NGO. It's mostly concentrated in North America and Europe, and prospects for further growth there are limited. But in the global South, home to the vast majority of the 1.4 billion people who depend on farm-saved seed, the market could be worth another \$20 billion or more. No wonder seed giant Syngenta applied for a multi-genome patent in 115 countries that would give it monopoly power over the flowering sequences of some 40 plants.

Under pressure from ETC and others, Syngenta recently withdrew its application. But enforcing patents in many different developing nations with evolving laws could prove difficult, anyway. An easier strategy might lie in biological controls such as the Terminator. This genetic modification makes second-generation seed sterile. Farmers could plant Terminator seed and harvest a crop, but if they saved and planted the second generation of seed, it wouldn't grow. This renders contracts and patents irrelevant; farmers would simply have no choice but to buy new seed every year. (Since 1998, there has been a United Nations-brokered global moratorium on such technologies. Canada tried but failed to break the moratorium at a February UN meeting in Bangkok.)

Percy Schmeiser fears for the future of North American and world agriculture. “Farmers are going out of business because they can't make it in the face of markets manipulated by corporations. The corporations are becoming the barons and lords, which are what my grandparents thought they'd escaped.”

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