

Genetic engineering enforces corporate control of agriculture



The introduction of genetic engineering (GE) in plant breeding has been accompanied by the expansion of patent monopolies. Companies have seized on the opportunity to extend the corporate control of agriculture through the patenting of seeds and plants. Increasing corporate control has meant the seed industry has been largely integrated into the agrochemical sector and an increasing number of patent litigation cases have been lodged. Choice for farmers has also been reduced and seed prices are skyrocketing. Seed giant Monsanto is especially criticised because of its predominant position and extreme enforcement of patent rights. Even in the US, where many farmers welcomed being able to cultivate GE plants, seed patent monopolies are a growing problem that has led to several anti-trust investigations. Choice in seed has been reduced, prices are increasing dramatically and farmers are being taken to court by international companies

Agrochemical companies take over the seed market

The commercial seed industry has undergone tremendous consolidation in the last 40 years as transnational corporations have entered this agricultural sector, and acquired or merged with competing firms (Howard 2009).

According to analyses from the ETC Group, in 2007 just ten companies controlled two-thirds of global seed sales (ETC 2008). Of these companies, the top four - Monsanto, Dupont, Syngenta and Bayer - control between 40 and 50% of the commercial seed market (Hubbard, 2009). None of these four companies stem from the traditional seed business; instead, companies from the agrochemical sector now dominate the seed industry. With this move into the seed industry, genetic resources, seed, plants and food have become patented inventions of these multinationals; and every gene sequence introduced into a plant by genetic engineering also confers patent protection to the plant, its progenies and derived products such as food and biomass.

Farmers under fire from patent litigation

Patent litigation normally takes place between companies. In the case of seed monopolies however, patents are even enforced in the fields of the farmers. A report from the Center for Food Safety documents over 100 cases in which farmers were accused in the US of infringing the patent rights of the Monsanto seed company (Center for Food Safety, 2005). In 2007, 57 lawsuits ended in payments awarded to Monsanto totalling \$21,583,431 US dollars. It is estimated that up to four times this amount was paid to Monsanto in confidential out-of-court settlements (Center of Food Safety, 2007).

Monsanto is also active in enforcing its markets in Europe, South America and Asia. While in some of these countries Monsanto does not have patent protection for its GE products, the company has attempted to cash in on its patents in other countries. Argentinean soya producers have been taken to court by the company in the UK, Spain and the Netherlands. Monsanto argues that the harvest from GE soya arriving in European harbours can still be identified as its intellectual property due to the presence of the inserted gene sequence. Three lawsuits in Europe have been lost by the US company. However, in 2008, a Dutch court referred key questions on the case to the European Court of Justice, and this is still pending as Case C-428/08.

Choice for farmers reduced, access to genetic resources denied

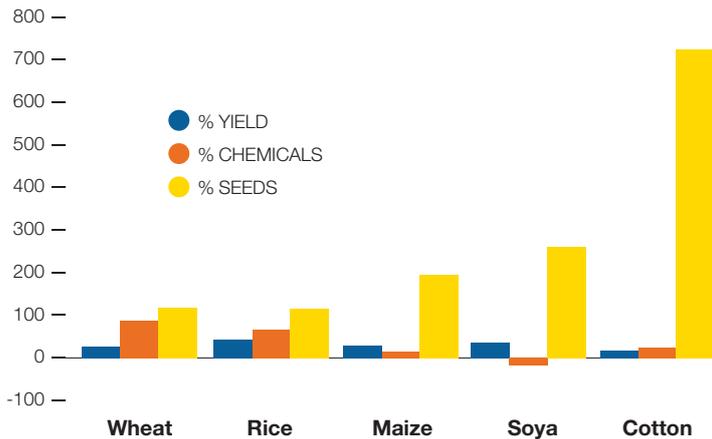
Patents on plants are even used to deny access to material needed for risk research. As the editors of Scientific American Magazine (2009) have reported: "For a decade their [Agritech companies such as Monsanto, Pioneer and Syngenta] user agreements have explicitly forbidden the use of the seeds for any independent research. Under the threat of litigation, scientists cannot test a seed to explore the different conditions under which it thrives or fails. They cannot compare seeds from one company against those from another company. And perhaps most important, they cannot examine whether the genetically modified crops lead to unintended environmental side effects." Farmers, breeders and markets can also be excluded from access to patented genetic resources.

The presence of corporate monopolies can also substantially reduce choice in seeds. The US National Family Farmers Coalition reports several seed companies being first bought by Monsanto and then withdrawing their conventional varieties from the market, leaving the farmer hardly any choice but patented GE seeds (Hubbard, 2009). Progress in plant breeding can be hampered and slowed down because competition, research and development are impacted by the seed monopolies (Louwaars et al., 2009).

Patented seed prices skyrocket

For several years the prices of GE seeds being sold with an additional technology fee have been skyrocketing in the US. Prices for maize seeds were more than 30% higher, and soybean seed nearly 25% higher in 2009 compared to 2008 (Hubbard, 2009). Prices for seeds from crops that have been genetically engineered and patented (maize, soya and cotton) are rising much more rapidly than those in conventional seed markets, such as wheat and rice (USDA, 2008). This is despite GE seeds not showing significant comparative growth in yields. This extra burden of higher seed prices is often directly attributable to the technology fees - in India, Monsanto earned about \$53 million by selling its patented 'Bollgard' cotton in 2009 - the technology fee made up between 15 and 25% of the seed price (Damodaran, 2009).

Graphic 1: Percentage of increase in yield and percentage of increase of costs for chemicals and seeds. Comparison of data from 2008 to data from 1990. Original figures USDA, Economic Research Service, 2008.



This trend is likely to continue: the second generation of Monsanto's RR (Roundup Ready) GE soy beans (RR2) are reported to have a 7% higher yield than the first (Kaskey, 2009), but RR2 seed prices for 2010 were announced to be 42% higher than those for RR seed in 2009 (Benbrook, 2009).

A turn around in the US market?

The AAI (American Antitrust Institute) has reported that Monsanto's successive acquisitions of seed companies has been the primary driver behind increased concentration of the GE seed market, and the company has been involved in about three-quarters of all agricultural biotechnology litigation over the last ten years (Moss, 2009). AAI states that Monsanto acquired almost 40 companies during the late 1990s through 2000s, the majority being seed companies. Because of these clear signals that Monsanto has overstretched its market position in its key market, antitrust complaints were recently filed. A rival of Monsanto, Dupont, triggered investigations, which led the US Justice Department to open a formal procedure in January 2010 (Kilman & Katan, 2010). Bloomberg reported investigations in seven US states (Kaskey & McQuillen, 2010).

Loss of food security

Seed companies are now increasingly filing patents on plants derived from traditional breeding, and building up new monopolies in conventional seeds (Then & Tippe, 2009). As well as farmers, food producers are also impacted by this development as many patents go beyond farm production and include harvest and processing methods and even food and feed products.

This extreme concentration and corporate control of the food system has also alarmed those who are concerned about world food security and the right to food, such as the United Nations Special Rapporteur on the right to food, Olivier De Schutter, who warns that hunger will soar if the monopolies of multinational corporations prevail (De Schutter, 2009).

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