Seeds Fact Sheet

Seed Company Consolidation:

The seed business used to be comprised of thousands of companies, mostly family businesses, that offered a vast array of plant varieties. Now, just 10 consolidated agribusiness corporations control 33% of the $23 billion world seed trade and the top ten agrochemical companies control 91% of the $31 billion agrochemical market.[1] Seventy-five percent of the global vegetable seed market is controlled by 5 companies.

The top three seed companies are DuPont, (which now owns Pioneer Hi-Bred) Monsanto, (recently acquired by Pharmacia Corporation) and Syngenta[2], a new company made up of Novartis, AstraZeneca and Advanta Seeds[3]. Along with two other top agrochemical companies, Dow and Aventis, there are now five "Gene Giants" who control virtually 100% of the genetically modified organism (GMO) seed business.

Monsanto earned its number two position by spending $8 billion buying up seed companies in the late 1990's, including paying $1.4 billion to Cargill for its international seed business.

Seed Company Practices that Impact Farmers:

The loss of agricultural genetic diversity. Corporate control of seeds has led to the loss of genetic diversity because of decisions they make about which varieties may be profitable. For instance, one of the largest vegetable seed companies in the world, Savia Corporation of Mexico's California subsidiary, Seminis Seed, which supplies seeds for 40% of all vegetables sold in U.S. grocery stores and controls nearly one-fifth of the worldwide fruit and vegetable seed market, announced that it would eliminate 2,000 varieties of seeds[4], or 25% of its inventory.[5]

Companies playing both sides of the fence. Many agrochemical companies are vertically integrated, doing business at every point of the food chain, from seed germplasm to grocery store shelves. This can result in different strategies for different sectors, some of which do not favor the farmer. For instance, the giant food and pharmaceutical company, Novartis Corporation, announced in August 2000 that it eliminated genetically engineered ingredients from all of their food products, worldwide, in response to consumer demands.[6] Meanwhile, their agricultural divisions continue to aggressively market GMO seeds and inputs to American farmers.

Saving Seed means Saving Money. Seed saving has been a fundamental farming practice for thousands of years, and it still makes good economic sense for some crops. Seed costs have almost doubled, per bushel, in the last two decades[7], in part because the agro-chemical companies need to recoup their enormous research and development costs and in part because their control of the market gives them more pricing power. However, GMO seeds may not be saved, sold or re-used. In fact, farmers do not really buy GMO seeds, they enroll in a technology program that entitles them to plant patented seeds for one crop year only.

For many years, Bill Christison has saved seeds from crops grown on his 2,000 acre farm in Missouri, resulting in dramatic savings. His seed costs are $6.53 per acre for soybeans, as opposed to $42.00 if he bought genetically engineered seeds. This is based on the costs of growing, harvesting, and cleaning 50 acres of seed, versus giving up that practice and shifting to purchasing new seed that cannot be replanted.

New Seed Technologies - Terminator Technology:

Seed companies restrict how farmers use GMO seeds, but enforcing those restrictions means that companies spend money to investigate farmers and sue them for fines and penalties. But now that plants can be genetically engineered with a number of traits, a new technology has been invented that breeds self-enforcing patent rights right into the seed. The inventors call it a "Technology Protection System," but is commonly referred to as the "Terminator Technology." While it is not yet on the market, patents have been taken out on several "terminator" systems that work by rendering the seed sterile after its first use. Since GMO crops are known to outcross, the concern is that terminator sterility traits could be transferred to other plants. This is just one potential risk that this technology poses.

The Patenting of Seeds:

Patents are the life blood of the new seed technologies. Patents protect both the invention and the profits by giving the developer exclusive rights, but they also result in higher prices and a loss of control over farming by growers who use patented seeds. In Argentina, where there are no patents on GMO seeds, farmers pay about half what American farmers pay for Round-up Ready seeds.[8]

Plant patents are often very broadly applied and strictly enforced, meaning that farmers can no longer conduct on-farm experiments and the number and type of plant varieties in use is dwindling. Only the corporate patent holder can afford to engage in patent litigation, which is enormously expensive. As a result, the use of patents gives companies much more economic and legal power than they would have if seeds were held in the public domain.

This fact sheet was written by Claire Cummings in collaboration with the Farmer to Farmer Campaign. For additional information on genetic engineering in agriculture, please call (800) 639-FARM. Fact sheet prepared September 2000.

---

[1] *Seed Industry Consolidation, Who Owns Whom? Rural Advancement Foundation International, Communique. July/August 1998. <http://www.rafi.org>*

[2] *Syngenta's sales, based on 1998 figures, were $6,900 million in agrochemicals alone. Novartis Corporation was the result of a 1997 merger between Ciba Geigy and Sandoz and AstraZeneca was the product of a 1998 merger between Astra and Zeneca.*

[3] *Advanta Seeds was responsible for selling GMO-contaminated seed to thousands of European farmers in 2000.*

[4] *Seminis Seed Press Release, June 28, 2000.*

[5] *Seed Industry Consolidation, Who Owns Whom? Rural Advancement Foundation International, Communique. July/August 1998. <http://www.rafi.org>*

[6] *Pollack, Andrew. "Novartis Ended Use of Gene-Altered Foods", New York Times, August 4, 2000.*

[7] *Benbrook, Charles. "World Food System Challenges and Opportunities: GMOs, Biodiversity, and Lessons from America's Heartland", University of Illinois World Food and Sustainable Agriculture Program, January 27, 1999.*

[8] *"Crop Genetics On the Line in Brazil" New York Times, May 16, 2000.*