GMOs & Corporate Control

An overview

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In recent years, as food has moved higher up the agenda for campaigners, policy-makers and politicians, the need to understand the wide-ranging impacts of the corporatisation of our food has become an urgent task.

Many feel a general sense of unease with the idea that food has become just another commodity, controlled – from farm to fork – by corporate interests.

In a world where so much of our daily existence is tied to a global marketplace it can be hard to grapple with the details of how far-reaching corporate control of the food system is and how concentrated it has become.

Yet, from seed production and plant breeding to the familiar brands that end up on our supermarket shelves just a handful of companies dominate. These companies don't just control the supply of food, they control what is grown, how it is farmed and the level and direction of innovation on the farm and in the marketplace.

Through the power of corporate lobbying they also have a worrying amount of control over food policy and regulation; and through aggressive marketing they control the perception of what we eat and therefore the evolution – and, some would argue, breakdown – of food culture worldwide.

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The power of the patent

The instrument of control, particularly when it comes to genetically modified (GM) foods, is the patent.

The definition of a genetically modified organism (GMO) – which applies in both law and science – is an organism whose DNA has been altered in a way that cannot happen in nature. This definition is important because it is what allows biotechnology companies to patent the plants that they produce (and all GMO plants are patented) as well as the processes used to produce them. Patents provide an important income stream for large corporations.

Today, living biological material like seeds and plants, which until now have been part of our natural and common heritage, are being appropriated and taken into corporate ownership through the use of patents and other forms of so-called intellectual property rights.

The genetic modification, or "inventive step", which justifies the patent might be a small part of a GM plant's gene sequence, but it is used to claim ownership of the plant's entire genome and all of its uses.

This gives the GM companies enormous power over plant breeding and farming; it takes away farmers' traditional rights to save and swap their own seeds; it squeezes traditional plant breeders out of existence; and it concentrates genetic resources in the hands of a few companies, giving them control over the future of food and farming.

Patenting of any living organism is controversial and while it is true that non-GM seeds and food products can also be patented, biotech companies have pushed this issue almost as far as it can go and, in so doing, have caused a fundamental shift in the relationship between man and nature.

Seed control

The practice of saving this year's seeds for replanting next year is as old as farming itself. It is an important part of the economy of many small farms and also helps ensure continuity in a farmer's crops, from season to season.

GM seeds, which are patented products owned by the companies that engineer them, cannot be saved and farmers risk prosecution and high fines if they try to do so.

It can be hard to get to grips with just how concentrated this control is. Currently a handful of large seed and chemical corporations (BASF, Bayer, Dow, DuPont and Syngenta) control 75% of the global agrochemical market, 63%of the commercial seed market and over 75% of private sector research and development (R&D) in seeds and pesticides. The influence of these companies extends well beyond just their market share, placing near unlimited power over our food system in a few, undemocratic hands.

Failing our farmers

This concentration of power can be devastating for farmers, driving up farming costs while providing no benefit in terms of increased yields or higher value crops.

Because GM seeds cannot legally be saved for replanting, farmers must buy new seeds each year. Biotech companies control the price of seeds, which cost farmers 3-6 times more than conventional seeds.

This, combined with the huge chemical inputs they require, means GM crops are more costly to grow than conventional crops. The disproportionate emphasis on developing genetically engineered crops, has also led to lack of investment in conventional seed varieties leaving farmers with less choice and control over what they grow.

Farmers who have chosen not to grow GM crops can find their fields contaminated with GMOs as a result of cross pollination between related species of plants and GM and non-GM seeds being mixed together during storage.

Because of this, farmers are losing export markets. Many countries have restrictions or outright bans on growing or importing GM crops and as a result, these crops have become responsible for a rise in trade disputes when shipments of grain are found to be contaminated with GMOs.

The burgeoning organic market, especially in the US, is also being affected. Many organic farmers have lost contracts for organic seed due to high levels of contamination. This problem is increasing and is expected to get much worse in the coming years. Should the UK government decide to deregulate GM crops and foods these problems seen in other countries will quickly become our problems too.

Loss of scientific independence

GM crops have accelerated the growth of a particularly toxic form of 'corporate science' – conducted in the name of profit and patents rather than honest enquiry.

Although we are learning more each year, there are still gaps in our understanding of how GM crops behave in the environment and how they might affect health. Patent law maintains that gap by allowing patent holders to control and restrict independent research into these and other areas.

Typical restrictions include no-research clauses in license agreements with farmers and limiting access to GM seeds and plants for independent researchers.

This toxic science, which is solely for the benefit of biotech companies, distorts the true picture of potential risks – and in particular health risks – by suppressing results that show harm. Yet it is used regularly and aggressively to silence critics of agricultural GMOs and the harmful pesticides that are used on them.

In contrast, studies conducted by independent scientists, regularly find disturbing results. A recent open letter by more than 300 such scientists from

Too dumb to have an opinion?

Biotech companies rely on the idea of the dumb consumer to explain why the public doesn't want to buy what they are selling

When it comes to GMOs, consumer polls in the UK and elsewhere consistently show that the majority of citizens don't want them on their farms or in their food. Yet this majority is not represented in the media, in academia and science, by regulators or by the politicians who are supposed to represent and work for the public good.

A recent and widely publicised study in 2019 even concluded that, when it comes to science, those who oppose GM food were simply too dumb to understand the issues. This is an all too common trope used to denigrate and over-ride legitimate public opinion and continue promoting 'market-based' solutions to food system problems.

These market-based solutions are rooted in an out-of-date mindset that market forces will always align neatly with public needs. This is rarely the case and the market is, in any case, stacked against consumer preferences.

Truthfully labelling GMOs, for example, fits well with the idea of market/consumer alignment. It ensures customers can make informed choices that, in turn, send a message about preferences back to manufacturers. Yet in the battle for labelling in the US, major corporations spent lavishly – $103 million in the years 2012-2014 alone – to defeat just four state-wide labelling initiatives.

Just as the public should have a say on what foods it spends its money on, it should also have a say on how its taxes are used.

Governments routinely plough public money into the research and development of genetically engineered crops. Patents, and therefore profits, from this R&D often end up in private hands rather than being returned to the public purse.

In this system the public keeps paying – with loss of choice and control, loss of democracy and the greater burden of risk – for GMOs it has repeatedly said it doesn't want. It's not the public that's dumb – it's the system.

around the world made it clear there was absolutely no scientific consensus on GMO safety and that the weight of the evidence suggests cause for real concern.

That's worrying enough. But there is also a compelling argument that when scientists are prevented from examining the raw ingredients in our food supply, or from testing the plant material that is intended to be planted in open fields over large tracts of land, these restrictions work against the public interest and, in fact, become a danger to the public.

Control masquerading as choice

Some might argue that the corporatisation of food has been a boon for consumers, giving us greater access to a wide range of foods and food brands to choose from. But choice at the supermarket is largely an illusion.

Although the average supermarket may stock upwards of 30,000 different food products, the truth is that most of those seemingly unrelated brands are owned by large multinationals companies.

The picture shifts slightly as brands are bought and sold, but in general just 10 companies – Nestlé, PepsiCo, Coca-Cola, Unilever, Danone, General Mills, Kellogg's, Mars, Associated British Foods and Mondelez – control almost every large food and beverage brand in the world.

These companies have a vested interest in maintaining but also creating new markets. Since their food products depend on a predictable supply of a handful of monoculture crops – wheat, soya and maize – the 'best' way to innovate is at farm level, for instance by altering the genome of these crops to improve yield, or resist pests ensuring a steady and cheap supply of ingredients.

With the advent of genetically modified animals – for instance the GM salmon that grows twice as fast as natural salmon – and new synthetic biology foods and ingredients, the same business model, with its distorted focus on cutting costs, persists.

While we might marvel at the level of technical sophistication involved in genetically engineering crops, animals and foods the truth is that genetic engineering has simply entrenched the industry's tendency to look at food as a commodity and to think in terms of ingredients and processes rather than food and nutrition.

Creating problems instead of solutions

The issue of corporate control of the food system highlights an essential conflict in our current patent-driven market-led food system. Large dependable supplies of commodity crops, reducing short term loss using pesticides, and pile-it-high-sell-it-cheap economics (a system which, of necessity, has a great deal of waste built in to it) may be good for corporate bottom lines, but it is not good for the rest of us.

Far from being a positive innovation, and an economic environmental and cultural success, GM crops are an extension of a harmful and outdated industrial farming model.

Global corporations continue to argue that consolidating global control gives them the money and the power to innovate. By innovation, they mean new 'advanced' plant engineering technologies using CRISPR, synthetic biology and biofortification – collectively known as 'gene editing'.

Far from being a positive influence, these innovations tighten the legal and biological grip of big corporates on global farming. They point towards a world where farmers no longer have a meaningful role in feeding the world and where food – a basic human right – is a just another commodity being sold to the highest bidder.

When scientists are prevented from examining the raw ingredients in our food supply, or from testing the plant material, it works against the public interest

In developing countries, they lead to the planting of monoculture crops which rely on expensive inputs. They, decimate farmland, biodiversity, local markets, traditional diets and traditional, sustainable practices such as seed saving.

In spite of this, governments in the EU and especially the UK are heavily promoting the use of GMOs in farming and food and are committed to deregulating these technologies and making them the primary drivers of agriculture.

The truth is that corporate control of the food system, with its focus on novel technologies like GM over health and nutrition, has reduced biodiversity, polluted landscapes, threatened the future of small-scale farming and reduced food security for the world's poorest people.

It has failed to 'feed the world' and instead has concentrated profits and power into the hands of a few ruthless companies. It's a dangerous scam and we need to stop buying into it.