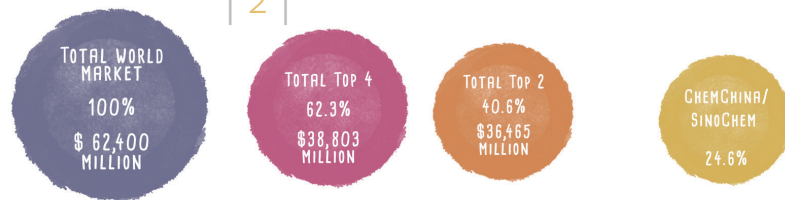

Agrochemicals & commercial seeds

– IN A NUTSHELL –



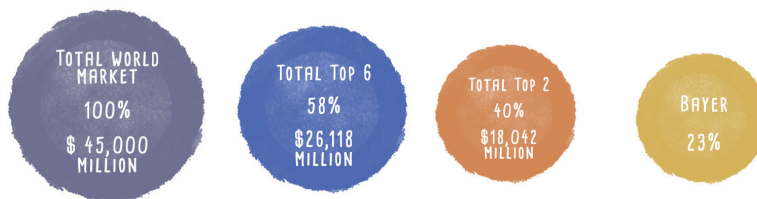
Agrochemicals/Pesticides: Companies in the agrochemical sector manufacture and sell pesticides used in agriculture. ETC Group uses the word “pesticide” as a synonym for “agrochemical.” The words “herbicide,” “insecticide” and “fungicide” refer to different types of agrochemical products (weed killers, insect killers and chemicals used to destroy fungus, respectively). In the wake of recent mega-mergers, at least five of the leading pesticide companies also dominate the world market for commercial seeds and traits. With the commercialisation of molecular biotechnologies in the mid-1990s (e.g., herbicide-tolerant genetically modified plants), the pesticide and seed sectors became inextricably linked. Today they are being further linked by Big Data strategies.

Commercial Seeds & Traits: The seed sector refers to crop seeds (primarily proprietary field crop and vegetable seeds) sold via the commercial market and genetically modified crop traits. However, ETC Group’s definition excludes farmer-saved seed and seed supplied by governments/public institutions. Despite the astonishing level of corporate concentration in the global commercial seed sector, the vast majority of the world’s farmers are self-provisioning in seeds, and farmer-controlled seed networks still account for an estimated 80-90% of seeds and planting material globally. Over the past 40 years, the world’s largest agrochemical firms have used intellectual property laws, mergers and acquisitions (M&As) and new technologies to take control of the commercial seed sector.



RANK	% MARKET SHARE	COMPANY (HEADQUARTERS)	AGROCHEM SALES \$US MILLIONS
1	24.6 %	CHEMCHINA + SINOCHEN (CHINA) PRO FORMA (SYNGENTA GROUP)	\$ 15,336
2	16.0 %	BAYER (GERMANY)	\$ 9,976
3	11.3 %	BASF (GERMANY)	\$ 7,030
4	10.4 %	CORTEVA (USA)	\$ 6,461
5	7.9 %	UPL (INDIA)	\$ 4,900
6	7.4 %	FMC (USA)	\$ 4,642
7	6.4 %	SUMITOMO CHEMICALS (JAPAN)	\$ 4,010
8	5.6 %	NUFARM (AUSTRALIA)	\$ 3,491
9	2.3 %	JIANGSU YANGNONG CHEMICAL Co., LTD. (CHINA)	\$ 1,413
10	1.7 %	SHANDONG WEIFANG RAINBOW CHEMICALS Co., LTD. (CHINA)	\$ 1,048

LEADING COMPANIES BY AGROCHEMICAL SALES, 2020



RANK	% MARKET SHARE	COMPANY (HEADQUARTERS)	SEEDS & TRAIT SALES \$US MILLIONS
1	23 %	BAYER (GERMANY)	\$ 10,286
2	17 %	CORTEVA AGRISCIENCE (USA)	\$ 7,756
3	7 %	CHEMCHINA/ SYNGENTA (CHINA)	\$ 3,193
4	4 %	BASF (GERMANY)	\$ 1,705
5	4 %	GROUPE LIMAGRAIN/ VILMORIN & Cie (FRANCE)	\$ 1,684
6	3 %	KWS (GERMANY)	\$ 1,494
7	3 %	DLF SEEDS (DENMARK)	\$ 1,153
8	1.0 %	SAKATA SEEDS (JAPAN)	\$ 648
9	1.0 %	KANEKO SEEDS (JAPAN)	\$ 570

LEADING COMPANIES BY SEEDS & TRAIT SALES, 2020

Right now pesticides and commercial seeds are no longer distinct links of the industrial food chain. However, ETC Group continues to provide corporate rankings and market share for seeds and agrochemicals as *separate* sectors, even though focusing primarily on seeds is a rarity among the leading companies - Vilmorin (#5) and KWS (#6) are exceptions.

Highlights from the full reports:

The colossal SinoChem and ChemChina merger creates not only the world's largest chemical conglomerate, but also the leading industrial farm input business (seeds, pesticides and fertilisers) – all under the umbrella of the newly formed Syngenta Group.

Over the past 25 years, as patents on blockbuster agrochemicals began to expire, generic pesticide manufacturers, especially in China and India, have created huge markets by churning out cheaper formulations of post-patent products. With the explosive growth of generic pesticides, agriculture has become even more dependent on toxic agrochemicals, especially in the global South.

The world's largest agrochemical/seed firms have fortified their market control via consolidation and mega-mergers. Now they are feverishly investing in high-tech and digital technologies to further expand their already-solid oligopoly. That's why the world's biggest data companies – Apple, Alibaba, Amazon, IBM, Google, Baidu and Microsoft, among others – are now tightly entangled with industrial food production.

Big Ag companies seek to profit, not just from the sale of traditional inputs, but also from the sale of digital tools and app subscriptions and data-driven farm management services – while collecting valuable on-farm data.

The reach of digital food and ag is rapidly expanding to peasant and small-holder agriculture in the global South. Digital technologies offer new forms of control and value extraction that threaten to further usurp farmer autonomy and decision making while facilitating a new era of land grabbing.

Under the umbrella of digital ag services, carbon credit schemes for farmers have proliferated in the last half-decade, particularly in Europe and the US.

Chew on this

Agrochemical/seed giants are looking to fortify their oligopoly power with the rollout of novel, proprietary genetic technologies. Our report examines: 1) Gene editing and 2) RNA-based pesticide sprays.

The ag biotech industry is scrambling to win monopoly patents on gene-editing tools like CRISPR. Recent studies indicate that, far from being “precise and predictable,” genome edits may often result in unwanted changes and unpredictable outcomes.

RNAi is biotech’s newest techno-fix for agriculture. Despite major gaps in knowledge about the environmental, health and safety impacts, RNAi-based insecticidal sprays are already being field tested in the US.