FACT SHEET

THE FERTILIZER SECTOR

INDUSTRY OVERVIEW

Modern agriculture relies on external inputs of three major plant nutrients — nitrogen (N), phosphorus (P), and potassium (K) — through the application of synthetic fertilizers. The nature of the production and distribution of fertilizer has made it especially vulnerable to corporate capture. Generally, the production of synthetic fertilizers involves aggregating the raw materials that are required to produce each nutrient and then refining them into various kinds of fertilizers. A third optional step involves mixing various fertilizers to produce tailored blends that meet regional or customer demand. Today, the dominant fertilizer corporations control each step of this process.

Each type of fertilizer requires different raw inputs and is produced through varying chemical and industrial processes. **Nitrogen** fertilizers are produced by capturing nitrogen from the air and combining it with hydrogen from natural gas (or other sources) to create ammonia — the feedstock for all other nitrogen fertilizer products. **Phosphorus** fertilizers come from phosphate rock, deposits of which are mined, converted into phosphoric acid or elemental phosphorus, and then refined into superphosphates (TSP and NSP) and related compounds. **Potassium** fertilizers are created by mining or manufacturing various kinds of potassium salts (collectively known as "potash") and refining them into muriate of potash (MOP) or reacting them with sulfuric acid to create sulfate of potash (SOP).

After fertilizer products are manufactured, they are sold to wholesalers, agricultural retail chains, cooperatives, and independent farm retailers. Transportation and storage of fertilizer materials are costly and require specialized equipment and facilities, which raises logistic costs. As fertilizers are a high-weight/low-value commodity, logistical costs can add significantly to delivered prices and limit the geographic area from which buyers can source their fertilizer suppliers.

HISTORICAL CONTEXT

The fertilizer industry has a historical precedence of extreme consolidation and anti-competitive behaviors, however, it also has a history of successful antitrust enforcement — restoring a more fair and competitive marketplace. Before World War II, corporate mergers exacerbated the industry's collusive tendencies, leaving the entire fertilizer sector in the control of a handful of dominant corporations. After the outbreak of World War II in 1939, however, enforcers and legislators launched a successful reform effort on the concentrated power of this oligopoly, known then as the "Fertilizer Trust." The reform effort significantly improved competition in the fertilizer industry, leading to more stable and resilient production, better prices, and better products.

In the 1980s, however, all this changed when various market conditions provided the industry an opportunity to take advantage of the atrophy of federal antitrust enforcement throughout the '80s to consolidate dramatically and rebuild their cartels in an even more monopolistic form. This period of hyper-consolidation reached its crescendo in the twenty-first century, which was characterized by a series of mega-mergers that created the current monopolized state.

As a result of these developments, today, each of the major macronutrient industries is dominated by a single monopolistic corporation. Mosaic reigns over the American phosphate market, CF Industries commands the nitrogen sector, and Nutrien has taken charge of the North American potash market as the leading member of a duopoly with Mosaic.

1939

- **Nitrogen:** Two companies controlled 90%
- **Phosphorus:** Six companies controlled nearly the entire market
- **Potash:** Three companies controlled 85%

LATE 1950S

- **Nitrogen:** 17 major companies
- **Phosphate:** Nearly 100 companies were operating over 200 superphosphate plants
- 600+ companies operating 978 fertilizer-mixing plants

LATE 1970S-1980

- **Nitrogen:** 56 major companies
- **Phosphorus:** 25 companies mined phosphate rock
- **Potash:** 15 major companies operating in the U.S. and Canada

1990

- **Nitrogen:** Less than 30 companies
- **Phosphorus:** 15 companies
- **Potash:** 8 companies

1990-2000

- **Nitrogen:** Six companies controlled 68%
- **Phosphorus:** Six companies controlled 88%
- **Potash:** Two companies controlled 85%, however, the overwhelming majority of potassium was being imported from a Canadian oligopoly

2012

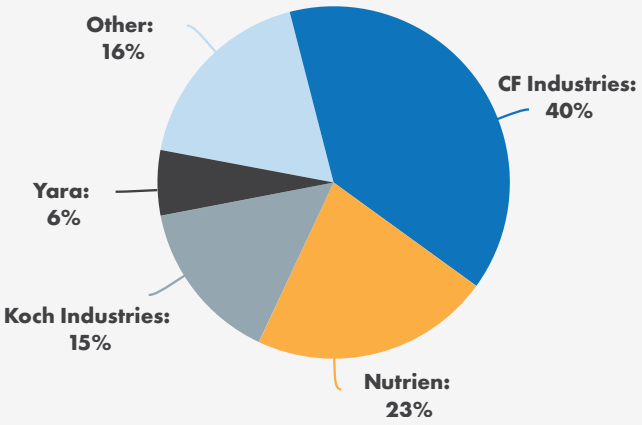
- **Nitrogen:** Four companies controlled 75%
- **Phosphorus:** Three companies controlled 90%
- **Potash:** 87-90% imported from Canada, where production is controlled by three firms

FACT SHEET

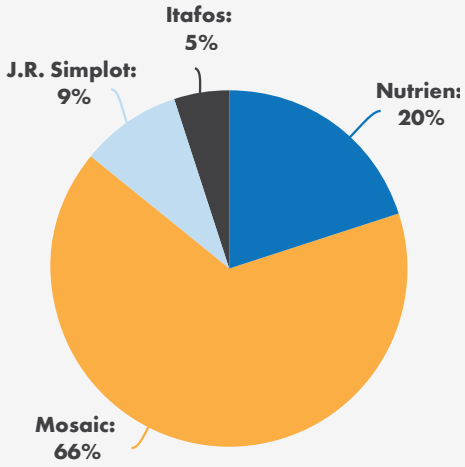
THE FERTILIZER SECTOR

North American Fertilizer Concentration in 2026

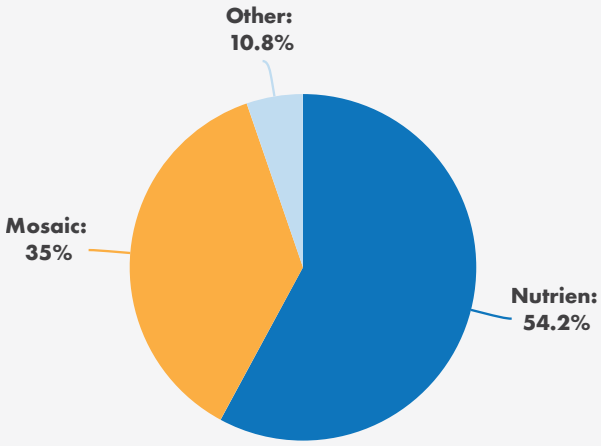
NORTH AMERICAN NITROGEN FERTILIZER CR4: 84%



NORTH AMERICAN PHOSPHATE FERTILIZER CAPACITY CR2: 86%



NORTH AMERICAN POTASH CAPACITY CR2: 89%



FERTILIZER DISTRIBUTION AND RETAIL CR7: 71%

Seven agricultural retailers control 71% of crop input sales/services (fertilizer and agrichemical): Nutrien Ag Solutions, Growmark, Helena Agri-Enterprises, CHS, The J.R. Simplot Co., Wilbur-Ellis, GreenPoint AG.

Updated April 2026

DIGGING DEEPER

The consolidation of control over fertilizer inputs and sales in the hands of Nutrien, Mosaic, and CF Industries (the "Big Three") has given these dominant incumbents the monopoly power to dictate outcomes in U.S. fertilizer markets. There are at least four major structural features that give the Big Three the power to exclude fair competition from U.S. fertilizer markets, making their present dominance nearly unchallengeable.

1. ***The Big Three have the power to control fertilizer prices.*** Because of their massive advantages in the total capacity of existing and potential rivals, they can single-handedly change the fundamentals of national and regional fertilizer markets. As such, it is widely acknowledged that CF, Mosaic, and Nutrien are "price leaders" for nitrogen, phosphate, and potassium fertilizers in the U.S. markets, respectively.
2. ***The Big Three can deprive rivals of access to fertilizer inputs,*** as they own and control the overwhelming majority of fertilizer inputs and distribution channels.
3. ***The Big Three control distribution networks.*** Nutrien and CF Industries are vertically integrated into distribution channels and other major agricultural retailers depend on friendly relationships with the dominant fertilizer producers in order to secure adequate inventories. Therefore, even if a new entrant into fertilizer production could overcome the other obstacles, they would struggle to find a fair distribution outlet for their product.
4. ***The Big Three are able to exclude rivals from fertilizer logistics channels***. Fertilizers seasonality and high-weight/low-value nature makes access to transportation a must and access to storage facilities near high-consumption regions highly advantageous. As it stands, a critical portion of these vessels and facilities are now either owned, leased, or subject to influence by the Big Three.

WHAT THIS MEANS FOR FARMERS AND THEIR COMMUNITIES

Since the Big Three consolidated monopoly power over their respective segments of the fertilizer sector in the 1990s, they have raised fertilizer prices, cut fertilizer output, and reduced the quality and selection of fertilizer products available in the U.S.

In 2022, Farm Action's research demonstrated that the outlandish price hikes that dominated the 2021 and 2022 fertilizer industry were instances of these corporations using their monopoly power to price gouge farmers. In 2021, the wholesale fertilizer index increased by more than 60% compared to 2020 levels, and in 2022, wholesale fertilizer prices increased even higher, averaging 132% higher than 2020 prices. Fertilizer incumbents claimed those price hikes were attributable to supply chain shocks that increased their input costs, but their own financial documents refute those claims. In 2021, Nutrien's gross manufacturing profit margin was up 669% from 2020, while its cost of goods sold had increased by only 58%. This dramatic expansion of profits is mirrored in financial reporting from other incumbents and these trends continued into 2022, with Mosaic improving on its 2021 profits by 120%, Nutrien by 142%, and CF by 212%.