NEVADA ORGANIC PHOSPHATE

April 2026

Organic Fertilizer Markets in North America*

- Regenerative agriculture rapidly replacing traditional farming practices
- Organic fertilizers gaining traction over toxic chemical ones
- Focus building on improving soil health, biodiversity & crop nutritional values
- Governments pumping money into the organic ag & food movement
- US & Canada adds phosphate to its Critical Minerals List in 2024/25
- Organic rock phosphate a key input component in regen ag systems
- NOP is well positioned to evaluate potential future resource development at its Murdock Mountain project pending further exploration results

*Backgrounder research note

Introduction- the second great ag revolution is well underway in North America

The organic fertilizer market is one of the fastest growing agricultural input segments in North America, and indeed throughout the world. Since 2000, the demand for truly "organic" fertilizers (other than local farmer produced natural inputs (i.e., manure/bone meal/compost/biosolids, etc.) has experienced a CAGR of over 15-20%....and shows no signs of slowing...only accelerating growth.

Farmer and farms (small & large) are searching for ways to improve soil health (after decades of erosion and denuding from heavy mechanization & chemical manipulation), boost yields sustainability and cost-effectively, improve water

retention and watershed tables, rescue and enhance local biodiversity, and more importantly keep farmers on the farm with more money in their pockets.

Misconceptions abound regarding what is organic and what is not when it comes to “natural” fertilizers and the food that it helps produce.

This research note will go thorough the various definitions of “organic” fertilizers, their relationship with organic/natural/regenerative agriculture, the correct classifications, guides and certifications that are approved by government regulators and the current/future demand for these products, out to 2035.

We will then focus on organic phosphate rock fertilizer and how Nevada Organic Phosphate may be positioned to participate in future market demand, subject to exploration results and technical studies.

Definitions/Types/Benefits- many variations, but one in the same

Organic fertilizer refers to natural substances derived from plant, animal matter, or mineral materials that have NOT been chemically synthesized of industrially manufactured....and that are used to enrich soil and promote plant growth. These natural materials release nutrients through natural biological processes such as microbial decomposition, mineralization and weathering. Unlike synthetic fertilizers, organic fertilizers improve soil health by enhancing its structure, water retention, and nutrient content. They are often rich in essential nutrients such as nitrogen, phosphorus, and potassium, which are vital for plant development. The use of organic fertilizers is a fundamental practice in sustainable agriculture, as they contribute to a healthier ecosystem.

Types of Organic Fertilizers*

There are several types of organic fertilizers, each with unique properties and benefits.

Common classification synonyms for organic fertilizers include soil amendment segments such as **natural compost**, **green manure**, **animal manure**, **organic nutrient fertilizers**, **plant-based fertilizers, bio-fertilizers, organic soil enhancers**, and **raw/organic mineralized nutrient-deposit type fertilizer**.

Natural compost is made from decomposed organic matter and is rich in beneficial microorganisms. **Green manure** refers to cover crops that are specifically grown to be tilled back into the soil, such as clover or cow-vetches. **Animal manure**, sourced from livestock, horse, chicken, & waterfowl provides a balanced nutrient profile, but only when decomposed and composted properly. **Organic nutrient fertilizers** such as bone meal /blood meal are a slow-release source of phosphorus, while fish emulsion is a liquid fertilizer high in nitrogen. **Plant-based fertilizers** such as alfalfa meal, seaweed extract and other plant by-products, as well as **bio-fertilizers** (using living microorganisms such as beneficial bacteria & fungi) are becoming very popular mostly with backyard gardeners and hobby farms, rather than with larger operations. **Organic soil enhancers** include decomposed organic matter (as above) with food table scraps/waste & mulched organic matter.

***Please view this website for the various commercial & retail brands of organic type soil amendments & fertilizers:** Catalogs - Rock Dust Local

A highly sought-after mineralized nutrient type of fertilizer is raw, **organic phosphate rock** with only trace amounts of toxins/heavy metal content.

Very few deposits of **mineralized phosphate** exist in the world, with Morocco and China holding vast supplies, but those deposits are NOT organic and are tainted with heavy metals and subject to chemical transmutation to make it applicable for chemical fertilizer (MAP & DAP) applications.

Benefits of Using Organic Fertilizer

The benefits of using organic fertilizers are numerous and significant. They not only provide essential nutrients but also improve soil health by increasing microbial activity and enhancing soil structure. This leads to better water retention and drainage, reducing the risk of erosion. Additionally, organic fertilizers are less likely to leach into waterways, minimizing environmental pollution. By promoting biodiversity in the soil, they contribute to a more resilient ecosystem, which is crucial for sustainable farming practices.

Organic Fertilizer vs. Synthetic Fertilizer

When comparing organic fertilizer to synthetic fertilizer, several key differences emerge. Organic fertilizers release nutrients slowly, providing a steady supply to plants over time, while synthetic fertilizers often deliver nutrients rapidly, which can lead to nutrient runoff and soil degradation. Organic fertilizers also improve soil health and promote microbial life, whereas synthetic options can harm beneficial organisms.

Environmental Impact of Organic Fertilizers

The environmental impact of organic fertilizers is overwhelmingly positive. By using natural materials, they reduce the risk of chemical runoff that can contaminate water sources. Organic fertilizers also promote soil health, which is essential for carbon sequestration and combating climate change. Furthermore, the use of organic fertilizers supports sustainable farming practices, which are increasingly important in preserving biodiversity and maintaining ecological balance in agricultural systems.

Common Misconceptions About Organic Fertilizers

Despite their benefits, there are several misconceptions about organic fertilizers. One common myth is that they are less effective than synthetic fertilizers. In reality, while organic fertilizers may take longer

to show results, they provide better long-term benefits to soil health and plant growth. Another misconception is that organic fertilizers are only suitable for organic farming. However, they can be beneficial in any farming context (cash crops, stable crops, indoor & outdoor farming), enhancing soil quality and promoting sustainable practices. (Source: What is: Organic Fertilizer - A Comprehensive Guide).

Organic Farming/Food & Organic Fertilizer Use

Definition/ Certification of Organic Farming & Food (and its variants) in North America

- **Organic Agriculture** is a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved (IFOAM General Assembly-2008; www.ifoam.bio).

- **Natural agriculture** is an ecological farming approach that emphasizes minimal human intervention, relying on nature's processes to cultivate crops sustainably without synthetic inputs. Natural agriculture is a method of farming that seeks to work in harmony with nature rather than against it. The methodology advocates for a "do-nothing" approach that avoids conventional practices such as plowing, tilling, and the use of chemical fertilizers and pesticides. This method promotes a closed ecosystem where plants and animals thrive naturally, enhancing biodiversity and soil health What Is Natural Farming? A Beginner's Guide | Micro Farm Guide.

- **Regenerative agriculture** is a holistic farming approach that restores soil health, enhances biodiversity, and strengthens ecosystem resilience while mitigating climate change. Regenerative agriculture is a conservation and rehabilitation approach to farming that goes beyond sustainability by actively improving the health of the land and ecosystems it relies on. It focuses on restoring soil fertility, enhancing

> biodiversity, improving water cycles, and supporting ecosystem services. Unlike conventional agriculture, which often prioritizes short-term yields, regenerative agriculture emphasizes long-term ecological health, community well-being, and resilience to climate change.
> Regenerative Agriculture | Definition, Practices & Examples | 2026

While these three definitions of various types of agriculture which are NOT traditional large-scale mechanical farming using chemical fertilizers, have slightly different operational footprints, they are similar in that no un-natural, inorganic or chemical/artificial/synthesized inputs are allowed.

The only farmer/natural systems inputs approved for these types of farming methodologies are organic, and therefore to be classified as "Organic Farmed" or "Organic Food", all these inputs must be classified, approved and certified as "Organic" by the **USDA National Organic Program (NOP)** in the United States, and by the **Canadian Organic Standards (COS)** in Canada administered by **Agriculture CANADA .**

National Organic Program (NOP)- UNITED STATES

NOP is a federal regulatory program governed by the US Department of Agriculture (USDA) and its Agricultural Marketing Service (AMS) that develops and enforces consistent national standards for organically produced agricultural products sold in the United States.

NOP also accredits third-party organizations to certify that farms and businesses meet the national organic standards. These certifiers (more detail on this on page x) and USDA work together to enforce the standards, ensuring a level playing field for producers and protecting consumer confidence in the integrity of the USDA Organic Seal (see below), for organic food products.

Source: National Organic Program | Agricultural Marketing Service

Canadian Organic Standards (COS)- CANADA

In Canada, organic food classification is governed by the Canadian Organic Standards (COS) and the Organic Products Regulations (OPR). These regulations require mandatory certification to the revised Canadian Organic Standards for food, feed, or seed products represented as organic in import, export, and inter-provincial trade. The standards are composed of two parts: the general principles and management standards for organic production systems and the permitted substances lists for organic aquaculture. The Canadian Food Inspection Agency (CFIA) oversees, monitors, and enforces these requirements, and issues the right to use the **Canadian Organic Regime Logo** (see below).

The **Canadian Organic Regime** is part of the Safe Food for Canadians Regulations, which cover food for human consumption, seed, and feed for livestock. The regulations apply to any product that has an organic claim on the label and is sold between provinces or territories or imported. However, the regulations do not apply to sales within a province or territory, and several provinces have implemented provincial legislation restricting the use of "organic" to certified organic products.

Source: EN-QS-P-080.pdf

Provincial Organic Logos: Two provinces have organic logos for products that are grown or processed within those provinces. In order to use these logos, operators in Quebec and British Columbia must comply with the applicable provincial organic regulations. More information can be obtained from the respective provincial government websites: https://www.cartv.gouv.qc.ca/en/quebec-organic-designation specification-manual https://www.certifiedorganic.bc.ca/cb/certification.ph

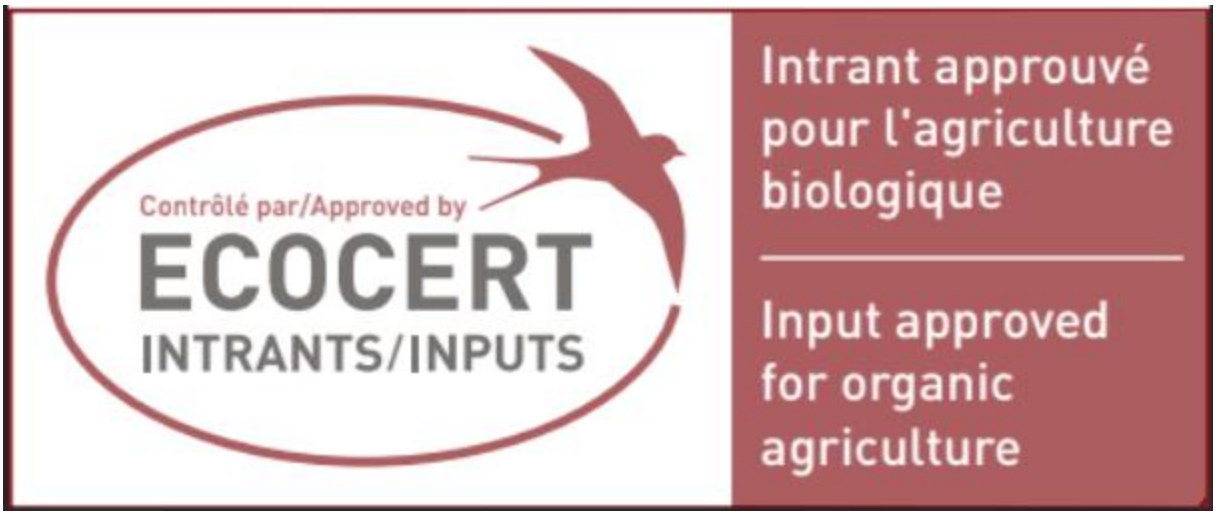
The largest certifier in Canada for the COS/OPR/CFIA is the **ECOCERT** designation and is recognized on both sides of the border with the United States. & Canada.

The ECOCERT Program- CANADA

The ECOCERT program is a global initiative aimed at promoting sustainable practices and environmental responsibility across various sectors. Founded in France in 1991, ECOCERT has grown to become one of the largest organic certification organizations in the world, conducting inspections in over 80 countries. The organization certifies products in the food, farming, forestry, textiles, cosmetics, and eco-products sectors, ensuring they meet stringent criteria for organic and environmentally friendly practices. ECOCERT's certifications are recognized globally, providing consumers with confidence in the sustainability and quality of the products they purchase.

The Ecocert program in Canada is a comprehensive initiative aimed at promoting sustainable practices across various sectors. It provides certification, consulting, and training services to help organizations implement eco-responsible practices and meet rigorous social and environmental performance standards. The program is particularly beneficial for organic farming, where Ecocert has been a benchmark for certification since its establishment. **The Canada Organic Trade Association recommends confirming the organic certification status of products with an accredited certifier** before making any purchases or transactions.

Ecocert Canada, a subsidiary of the Ecocert Group, is committed to organic agriculture and began a key player in the Canadian market for organic food & agricultural inputs certification.



Source: Ecocert | Act for a more sustainable world

Therefore, to have food certified as "Organic", all soil & farm inputs have to be so designated and certified as organic as well.

Classification & Certification of Organic Fertilizers in North America

United States

The **USDA National Organic Program (NOP)** handles the classification & certification of what inputs can be applied for organic food production and to allow the use of the "USDA Organic" seal.

It issues the **USDA National Organic Program Standards Manual & Handbook** (CCOF-USDA-NOP-Standards-Manual-March-2025-update.pdf) and is adopted largely state-wide, especially in those regions were organic & regenerative agriculture is flourishing (e.g.; California & the PNW- See logos below).

Oregon Department of Agriculture
Agricultural Services Division
Organic Certification Program

The standards and evaluation criteria for allowed and prohibited substances, methods, and ingredients are spelt out in detail with a **"National List of Allowed & Prohibited Substances"** (found in Section 205.600 on page 42 of the Handbook).

However, detailed information on the complete list of specific substances allowed as organic fertilizer inputs are published in the **Organic Materials Review Institute's** (OMRI-www.omri.org) Standards Manual for NOP Review: Generic Material List (OMRI-Generic Materials Lists -Standards-amended-Jan2026-EN.pdf). The complete list of allowed & prohibited input materials, including organic/chemical fertilizers, that can be applied to Crop Production is provided on pages 10-46.

The description for **“Mined Minerals”** on a generic basis is given on page 32:

“Mined Minerals, unprocessed- Class: CF, CT Nonsynthetic -ALLOWED

Nonsynthetic mined minerals that are not listed on 205.602 are permitted. Must not have undergone any synthetic processing that causes change in its molecular structure, such as heating in a way that produces a chemical change in the material. Must not be processed or formulated with prohibited materials, such as synthetic dust suppressants, anticaking agents, pelleting agents or other additives. Manufacturing processes of each mineral must be reviewed individually to ensure nonsynthetic status. Minerals made synthetically or industry by-products are not permitted as nonsynthetic minerals. NOP Reference: 205.105(b); 205.203(d)”.

The description for “Phosphate Rock” more specifically, is given on pg. 35:

“Phosphate Rock* – Class: CF Nonsynthetic- ALLOWED

Includes colloidal phosphate rock. See also MINED MINERALS, UNPROCESSED. NOP Reference: 205.203(d)(2)”.

*****However, it should be noted that nowhere in these descriptions is there any specific mention of any prohibited levels of mineral- contained contaminates/ toxins or heavy metals. Since the USDA & AAPFCO has established organic thresholds for radionuclides, these standards must then be met.

Certificates

Once approved by the OMRI, an official certificate is granted for the input product, and the NOP-USDA Organic seal can be applied on the packaging for point of sale/delivery.

Source: OMRI.org

Source: OMRI.org

CANADA

The classification of organic fertilizers in Canada is governed by the **Fertilizers Act and the CAN/CGSB-32.311-2020 standard**. These regulations outline the permitted substances and their uses in organic production systems. The Organic Federation of Canada provides a list of permitted substances for crop production, which includes various fertilizers, plant foods, and soil amendments. The list is subject to updates and amendments, ensuring that the substances used in organic farming comply with the latest standards and regulations.

For more detailed information on the permitted substances and their uses, the Organic Federation of Canada (Organic Federation of Canada) offers a downloadable list of organic fertilizer products. This list is essential for producers and farmers to ensure they are using compliant products in their organic farming practices (P29-32-311-2020-eng.pdf).

On page 17 of this list, **phosphate rock** is listed as approved:

"Phosphate rock may be fortified or processed with substances listed in Table 4.2 (Column 1.) Cadmium* shall not exceed 90 mg/kg of P2 O5."

***It should be noted that for Canadian regulations of prohibited substances, the cadmium level limit is specifically mentioned for phosphate rock, which differs for the US, as there is no mention of any limits to any contaminants.**

SUPPLY & DEMAND ANALYSIS: Non-Organic Phosphate Rock

SUPPLY

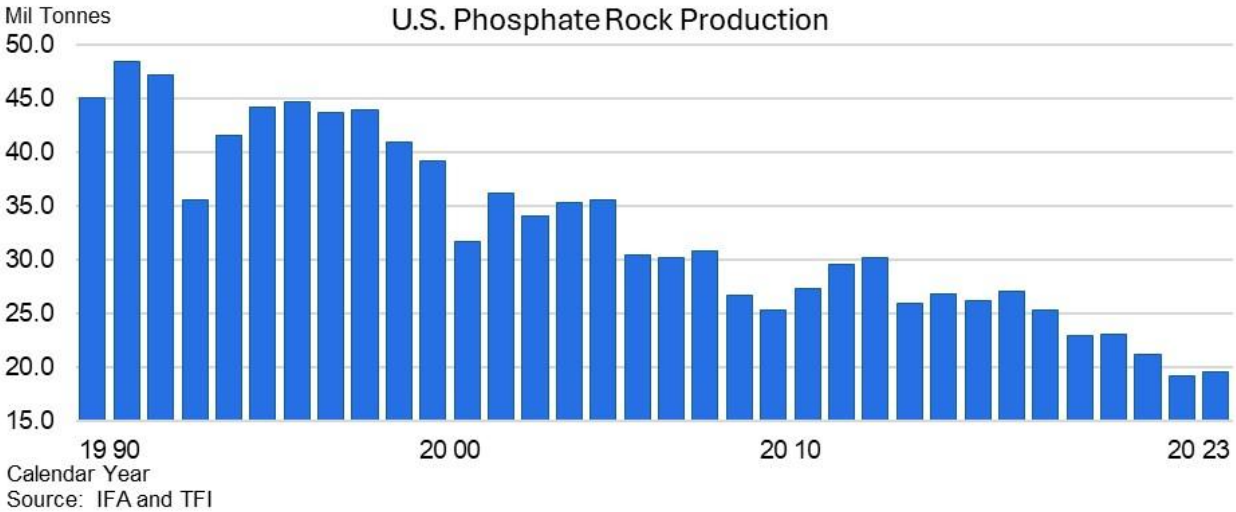
Production in the US is declining due to both rock quality and quantity. With the possibility of Nutrien's White Springs 500,000 tonne P2O5 phosphate facility in northern Florida closing later this decade or early next due to a lack

of phosphate reserves, North America's chemical-based phosphate fertilizer market could soon face a supply crisis.

Adding to the supply issue is the fact that 45% of global non-organic phosphate production is controlled by China (37%) and Russia (8%), two non-allied foreign countries who have already shown a willingness to restrict exports. Global supply challenges are often exacerbated by geopolitical tensions, which currently include the Russia-Ukraine war and conflict in the Middle East.

Recognizing its strategic importance for food security and the transition to a low carbon economy, the US & Canada added phosphate to its 2024 Critical Minerals List.

Figure 1. US Non-Organic Phosphate Rock Production (1990-2023)- in steady decline



DEMAND

Domestic Production and Use: In 2025, non-organic phosphate rock ore was mined by five companies at 10 mines in four States and processed into an estimated 20 million tons of marketable product, valued at $1.9 billion, free on board (f.o.b.) mine. Phosphate rock is produced in Florida, Idaho, North Carolina, and Utah. Marketable product refers to beneficiated phosphate rock with phosphorus pentoxide (P2O5) content suitable for phosphoric acid or elemental phosphorus production. **More than 95% of the phosphate rock mined in the United States was used to manufacture wet-process phosphoric acid and super-phosphoric acid, which were used as intermediate feedstocks in the manufacture of granular and liquid ammonium phosphate fertilizers** and animal feed supplements. About 25% of the wet-process phosphoric acid produced was exported in the form of upgraded granular diammonium phosphate (DAP), monoammonium phosphate (MAP) fertilizer, merchant-grade phosphoric acid, and other phosphate fertilizer products. The balance of phosphate rock mined was for the manufacture of elemental phosphorus, which was used to produce phosphorus compounds for industrial applications, primarily glyphosate herbicide.

Figure 2. USGS Statistics for Non-Organic Phosphate Rock

Salient Statistics—United States:	2021	2022	2023	2024	2025e
Production, marketable	21,600	e19,800	e19,600	e19,400	20,000
Sold or used by producers	21,900	e19,800	e20,000	e19,100	18,000
Imports for consumption	2,460	2,500	2,590	3,390	3,400
Consumption, apparent[1]	24,400	e22,300	e22,600	e22,500	21,000
Price, average value, f.o.b. mine,[2] dollars per metric ton	83	e99	e101	96	100
Stocks, producer, yearend	10,700	e10,600	e9,550	e8,740	8,400
Employment, mine and beneficiation plant, numbere	2,000	1,900	2,000	2,000	1,900
Net import reliance[3] as a percentage of apparent consumption	11	12	16	18	16

Source: U.S. Geological Survey, Mineral Commodity Summaries, February 2026

Events, Trends, and Issues: U.S. apparent consumption of non- organic phosphate rock in 2025 was estimated to be 7% lower than that in 2024, owing to a decrease in the production of phosphoric acid. Phosphate rock production has been about 20 million tons over the past several years as producers in Florida contend with decreasing reserves and lower P2O5 content. This has resulted in an increase in imports over the same period. Global production of phosphate rock was estimated to be 5% higher than that in 2024, with China, Morocco, the United States, and Russia, in descending order of production, remaining the leading producers. World consumption of P2O5 contained in fertilizers was estimated to have been 47.8 million tons in 2025 compared with 47.1 million tons in 2024. World consumption of P2O5 in fertilizers was projected to increase to 51.5 million tons by 2029. The leading regions for growth were expected to be Asia and South America. In October 2025, the U.S. Bureau of Land Management approved a new phosphate rock mine in Caribou County, ID. The new mine will replace an existing mine when that mine is depleted within the next decade. Global phosphate production capacity, in terms of P2O5 content, was projected to increase to 71.7 million tons by 2029 compared with 63.7 million tons in 2025. Capacity expansions to phosphate rock production that were expected to be completed by 2028 were ongoing in Brazil, Kazakhstan, Mexico, Morocco, and Russia. Significant new mining projects that were planned to be completed after 2028 were under development in Canada, Congo (Brazzaville), Guinea-Bissau, and Senegal.

On November 7, 2025, the **U.S. Final 2025 List of Critical Minerals** was published in the Federal Register (90 FR 50494). The changes in the 2025 list from the prior list published in 2022 (87 FR 10381) were the addition of copper, lead, potash, rhenium, silicon, and silver, based on the U.S. Geological Survey updated methodology for the 2025 list. As required by the Energy Act, public comment and interagency input were requested in response to the draft U.S. list of critical minerals published in the Federal Register (90 FR 41591). Based on that input, boron, metallurgical coal, **phosphate rock**, and uranium were also added.

Sources: USGS.org-2026 (Yearly Reviews)

Figure 3. Global Prices (for non-organic P2O5 rock)

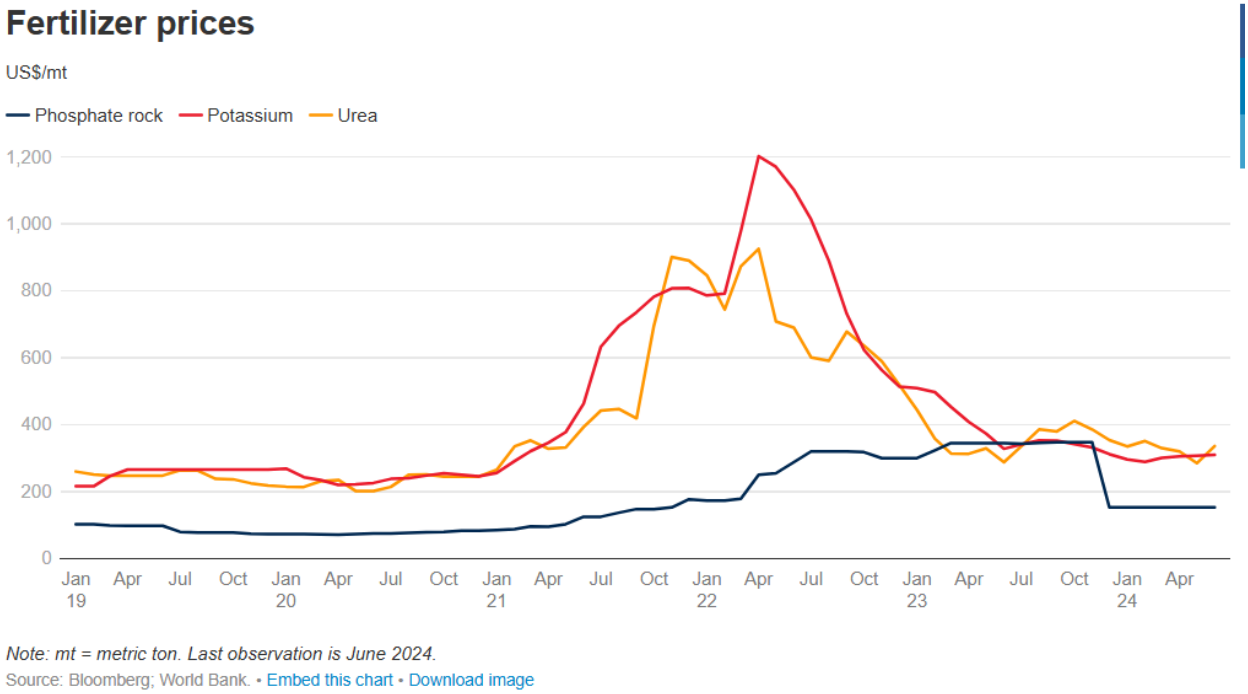
World Bank Commodities Price Data (The Pink Sheet) — **February 3, 2026**

			Annual Averages			Quarterly Averages					Monthly Averages		
	Unit		Jan-Dec 2023	Jan-Dec 2024	Jan-Dec 2025	Oct-Dec 2024	Jan-Mar 2025	Apr-Jun 2025	Jul-Sep 2025	Oct-Dec 2025	November 2025	December 2025	January 2026
Fertilizers													
DAP	$/mt		550.0	563.7	685.2	572.1	600.5	673.2	770.6	696.6	708.3	627.5	619.2
Phosphate rock	$/mt	b/	323.8	321.7	152.5	152.5	152.5	152.5	250.0	152.5	152.5	152.5	152.5
Potassium chloride **	$/mt	b/	383.2	295.1	347.5	283.9	319.0	359.2	357.2	354.7	353.8	358.3	366.0
TSP	$/mt	b/	480.2	474.6	577.6	490.8	479.0	559.6	660.8	611.1	636.3	538.5	529.2
Urea, E. Europe **	$/mt	b/	358.0	338.3	422.7	359.7	403.8	399.8	488.3	398.7	409.3	392.5	415.4

Source: World Bank: (f.o.b. North Africa) CMO-Pink-Sheet-February-2026.pdf

As of early 2026, global phosphate rock prices are hovering around **$150–$155 USD per metric ton** (Moroccan phosphate rock at $152.50 USD/mt FOB- see Figure 2). Prices for bulk agricultural, industrial, or, say, wholesale quantities range from $100 to over $600 per ton depending on purity and grade. Smaller quantities for garden use, such as 20kg bags, can sell for US$ 55 (at retail stores) or over US$2500/tonne. With shipping, packaging and sales/distribution costs of approximately US$500/tonne…. **wholesale prices for truly organic phosphate rock could transact in the US$1750-2000/tonne range, depending on the geographical market (refer to section on organic price section later, below).**

Figure 4. Non-Organic Phosphate Rock* Prices (2019-2025: US$/tonne; fob Morocco)



*Non-organic phosphate rock- used almost exclusively for chemical fertilizers

Based on market data for early 2026, non-organic rock phosphate prices are expected to remain elevated due to tight global supplies and high input costs, with North American wholesale prices generally trading around US$0.15 per kg ($150 per metric ton), according to February 2026 reports (Source: INN, Business Analysts).

Projected 2026-27 Market Pricing Dynamics- for Non-Organic P2O5

Elevated Price Trend: Following a 17% gain in 2025 mostly due to tariff pressures, non- organic rock phosphate fertilizer prices are not expected to decrease in 2026.

Supply Constraints: Ongoing restrictions on exports from China and Middle East (major global suppliers) tensions, are expected to keep prices higher throughout 2026-27.

Regional Pricing (North America): As of February 2026, the price for non-organic phosphate rock in North America was reported at approximately US$0.15/kg or US$ 150-155/mt, f.o.b. North Africa.

ORGANIC PHOSPHATE PRICING- very different pricing dynamics

As opposed to non-organic rock phosphate, very little pricing and market demand information (globally or in North America) is readily available and source checked. Here is what we have been able to collect from retail sites, word of mouth and organic fertilizer supply distribution websites, in terms of recent 1Q 2026 pricing:

Specific Product Pricing (Wholesale/Bulk):

Micronized Soft (organic) Rock Phosphate (0-9-0): Priced around $5,449 CAD per 1000kg (approx. $4,000 USD/tonne).

Granular (non-organic) Rock Phosphate (0-7-0): Roughly 1,489 CAD per 1000kg (approx. $1,100 USD) ...for comparison

Bulk (non-organic) Rock Phosphate: Loose bulk, full truckload prices have been listed around $225 USD per short ton.... again, for comparison to organic prices

PRODUCERS

Non-Organic Phosphate Rock/Chem Fert Producers in the USA

- **The Mosaic Company (Mosaic):** The largest phosphate producer in the United States and the world. Mosaic owns and operates extensive mines in Central Florida (including Four Corners, South Fort Meade, and Wingate). The three mines combined for 8,900 MT of phosphate rock concentrate in 2024-25.

- **Nutrien Ltd.:** The second-largest phosphate producer in North America. Nutrien operates the large Aurora mine in North Carolina and the Swift Creek mine in Florida.
- **J.R. Simplot Company:** A major producer operating in the Western US, including the Smoky Canyon mine in Idaho and the Vernal mine in Uintah, Utah.
- **Itafos (Itafos Conda LLC):** Operates the Rasmussen Valley/Conda phosphate mine and processing plant in Caribou County, Idaho.
- **P4 Production, LLC (Bayer Crop Science, AG):** Operates mines in Idaho, specifically the Blackfoot Bridge and South Rasmussen mines.
- **Fertoz Ltd.:** An Australian company that produces organic phosphate rock from operations in Montana.
- **Keras Resources PLC:** A UK based company that produces organic phosphate rock and granulated products from operations in Utah.
-

Active Mining Regions (as of 2024-2025): for non-organic P2O5 rock

- **Florida (Central/Bone Valley & North):** The primary source of U.S. phosphate, responsible for a large percentage of domestic production.
- **North Carolina (Beaufort County):** Location of Nutrien's major Aurora mine.
- **Idaho (Southeast):** Caribou County mines (Itafos, Simplot, Bayer).
- **Utah (Vernal):** Simplot's Vernal operation
-

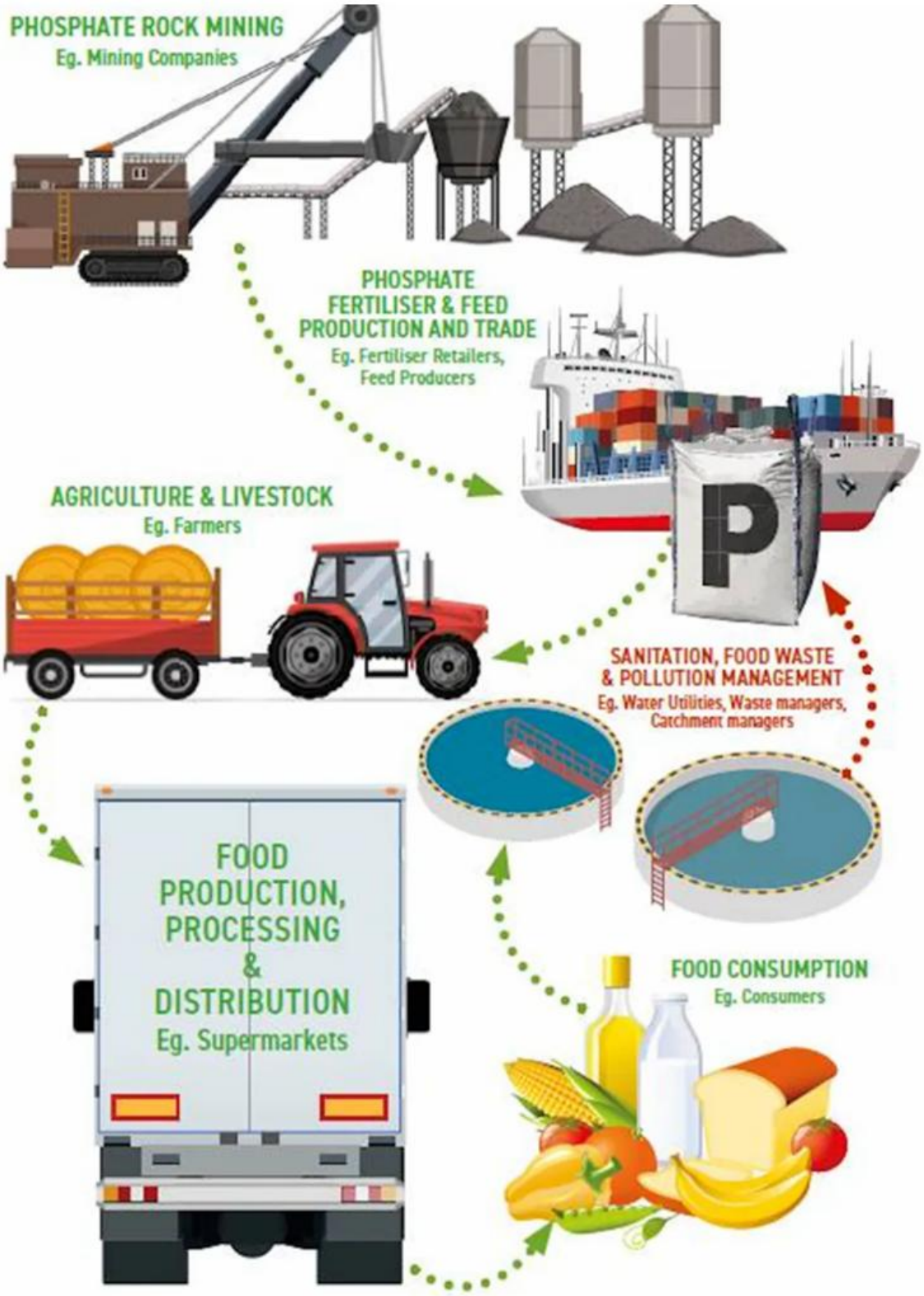
All these mines have contaminant issues and finite resources, especially the Nutrien & Mosaic operations in the eastern US.

Organic Phosphate Rock Producers

- **Keras Resources Inc**.'s Diamond Creek mine near Salt Lake City (which has produced organic rock phosphate products but is currently idle).
- The only active organic rock phosphate exploration project in North America is in the Murdock Mountain area of northeastern Nevada, where **Nevada Organic Phosphate** (NOP-CSE) has drilling exploration rights on four sizeable sedimentary phosphate beds and is in the midst of getting ready for its next series of drill holes. (www.nevadaorganicphosphate.com).

The company intends to resume their exploration work by late April or early May. Management is not aware of any other potentially large-scale organic rock phosphate project in on the continent.

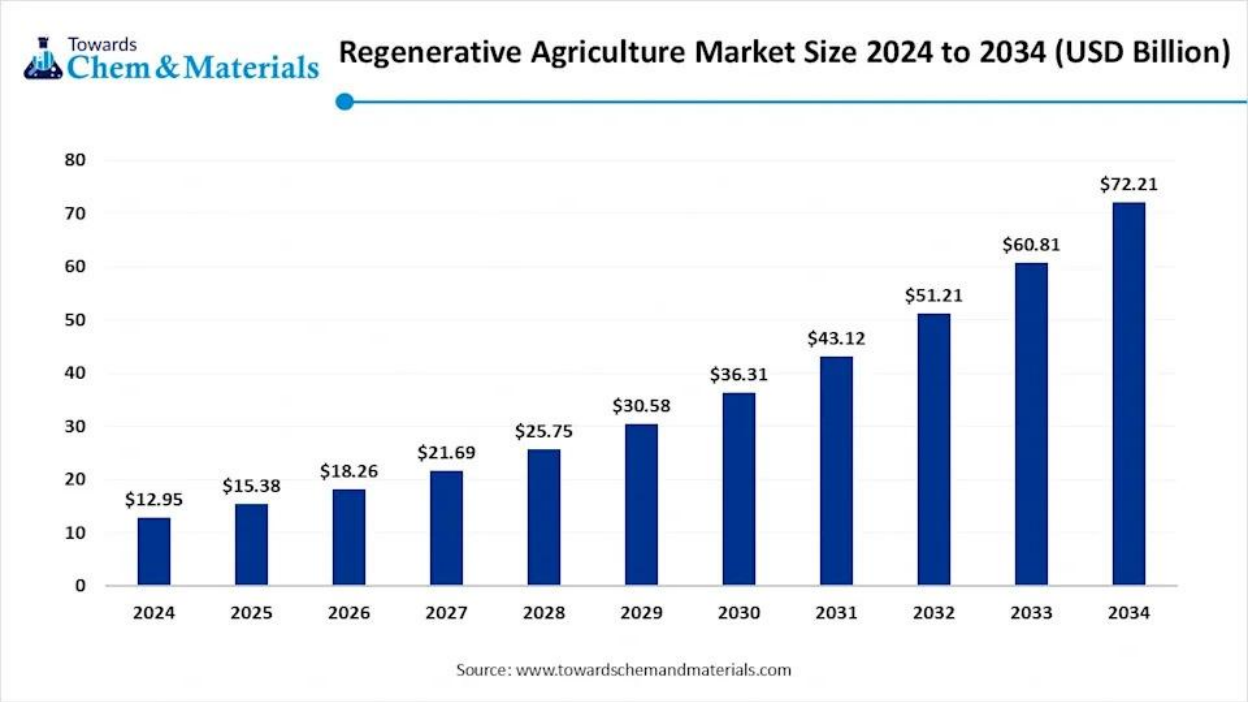
When the resource is proven up and possible mining operations commence, a potential future mining extraction concept could involve a simplified and low-cost processing and transportation system, subject to technical & economic studies. This could involve a “mine it, grind it, bag it and ship it” process.


PHOSPHATE ROCK MINING
Eg. Mining Companies
PHOSPHATE FERTILISER & FEED PRODUCTION AND TRADE
Eg. Fertiliser Retailers, Feed Producers
P
AGRICULTURE & LIVESTOCK
Eg. Farmers
SANITATION, FOOD WASTE & POLLUTION MANAGEMENT
Eg. Water Utilities, Waste managers, Catchment managers
FOOD PRODUCTION, PROCESSING & DISTRIBUTION
Eg. Supermarkets
FOOD CONSUMPTION
Eg. Consumers

Organic/Regenerative Farming Growth Forecast -exponential!

As the growth of organic and regenerative farming grows exponentially in North America and around the world, the drivers for organic fertilizer (and especially for NOP's organic phosphate) demand are evidenced in the data below:

Figure 5. Organic & Regen Agriculture Market Size Forecast (2024-2034)- **Global Est.**



The global market for **organic and regenerative farming** revenues is experiencing significant growth and is projected to expand at a compound annual growth rate (CAGR) exceeding 18% over the next decade. Regenerative & organic agriculture is estimated to reach values of between USD 70 billion and USD 72 billion by 2034 and currently stands at US$ 15.4 billion, as of 2025 worldwide (Regenerative Agriculture Market Size to Surge USD 72.21 Billion by 2034).

US Organic/Regen Markets- 30 % of the global food total & expanding

Market Performance

The U.S. organic market has shown strong growth & resilience, with sales in 2024-25 moving faster than the total food market:

- **Sales Value:** Total organic food sales in the U.S. reached approximately **USD 60 billion** in 2023. In Canada, it reached C$ 10 billion, with 8-9% CAGR over the past 5 years (ORGANIC MARKET REPORT 2024)
- **Production Trends:** While retail demand remains high, domestic organic acreage has faced challenges, with a 10.9% decline reported in 2021 compared to 2019, partly due to drops in pastureland. However, organic produce (the largest category) continues to grow, with fruit and nut acreage increasing 76% between 2011 and 2021.
- **Challenges & Drivers:** The "**Make America Healthy Again**" movement and strong interest from younger generations are fueling continued demand. In addition, there is a compelling case for the systematic integration of the USA's "**Food is Medicine (FIM**)" program into the U.S. healthcare infrastructure, **which could spur a US $45 billion economic boon era for American organic food systems**. FIM programs provide produce prescriptions and medically tailored meals and groceries to people with diet-related conditions. At a time when diet-related disease is widespread and small to mid-size farms face persistent financial strain, FIM could present a chance to tackle both challenges together while generating an economic boom. (A Potential $45 Billion Economic Era for American Food Systems).

Organic Farming Growth Trends

Consumer demand for organically produced goods has shown strong growth since the 1990s, providing market incentives for U.S. farmers across a broad range of products:

- Long-term projections suggest a 8-9% CAGR for organic through 2029, as organic farming expansion is driven by regulatory, environmental & consumer pressures.

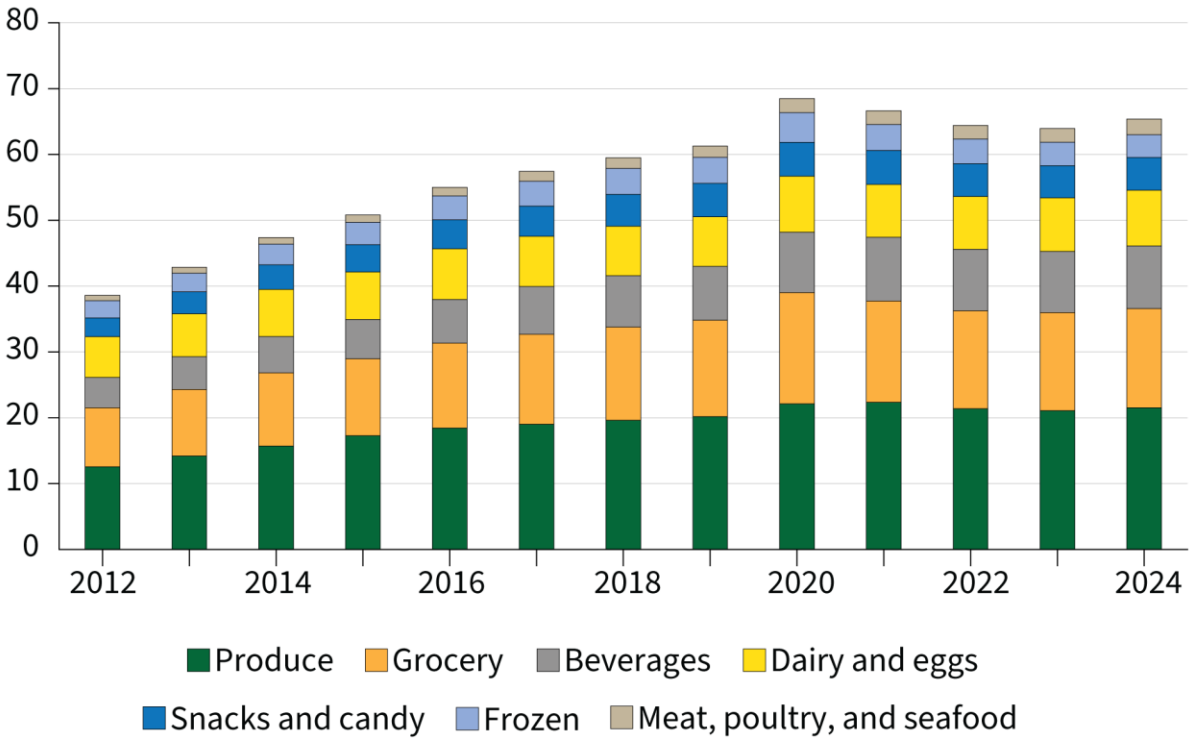
- According to the USDA, National Agricultural Statistics Service (NASS) surveys (2023), certified organic cropland acres increased by 79 percent since 2021 (to 8.9 million acres), pastureland/rangeland decreased by 22 percent (to 1.3 million acres), and certified organic operations increased by more than 90 percent (to 17,445 farms) over the 2011–21 period. Organic acreage is growing at 8-9% annually, according to the USDA.
- Conventional grocery retailers are the primary outlets for organic food sales, surpassing natural food stores in the mid-2000s. By 2020, traditional grocery stores, club stores, and supercenters accounted for 56 percent of the share of organic food sold to consumers (Organic Trade Association, 2021), and will likely reach 60-65% this year.
- Organic price premiums remain high in many markets as the demand for organic products increases. However, wholesale premiums for select organic fruits and vegetables have declined in recent years. See Organic Situation Report, 2025 Edition.
- The U.S. Department of Commerce began tracking selected organic products in 2011, with the tracked values of organic imports steadily increasing. Organic Agriculture | Economic Research Service with sales increases in all Organic Food categories reported continuing:

The **Organic Trade Association (OTA)** shows that U.S. sales of organic food products were an estimated $38.6 billion in 2012 (inflation adjusted to 2024 dollars) and reached $65.4 billion in 2024 (OTA, 2025). Inflation-adjusted organic sales increased for the first time in 2024 since 2020's peak.

Sales of fresh fruits and vegetables have been the top category of organically grown food since the organic food industry started retailing products. Retail sales of organic fresh fruits and vegetables were an estimated $21.5 billion in 2021 and have steadily trended upward for the past

two decades (Nutrition Business Journal, 2022). Produce accounted for 33 percent of U.S. organic food sales in 2024.

Figure 6. US Organic Food Retail Sales (USDA/OTA): 2012-2024



Note: U.S. dollars are adjusted for inflation to 2024 dollars based on the U.S. Department of Labor, Bureau of Labor Statistics' Consumer Price Index for All Urban Consumers (CPI-U). The grocery category includes the following subcategories: instore bakery and fresh breads; dry breakfast goods; baby food and formula; shelf stable soups, stews, and broths; oil, shortening, and vinegars; canned fruits and vegetables; spices; condiments; sweeteners; dried beans, fruits, and vegetables; deli and refrigerated prepared foods; dried prepared foods; baking needs; rice, grains, and potatoes; nut butters, jams, and preserves; pasta; tofu and tempeh; salad dressing and dips; pasta sauces; salsa; and meat alternative and veggie burgers. The frozen category includes the following subcategories: frozen prepared foods; frozen fruits and vegetables; desserts; ice cream; and frozen juice.

Source: USDA, Economic Research Service using data from the Organic Trade Association.

Key Catalysts in US Sustainability Farming

- **Convergence:** Regenerative and organic are increasingly overlapping, with "Regenerative Organic Certified" gaining traction.

- **Technology:** The use of data platforms and AI for tracking soil health and carbon, as well as biological fertilizers, is growing rapidly.

- **Investment:** The USDA has launched initiatives like the $300 million **Organic Transition Initiative** and new pilot programs to lower barriers for farmers when converting their lands to regenerative farming practices.

- As well, the US government will invest over US $1 billion in research into new and sustainable farm practices, as was announced recently in a joint statement issued by the Environmental Protection Agency (EPA), the Department of Agriculture (USDA), and the Department of Health and Human Services (HHS- US says research funding into new farm practices to surpass $1 billion | Reuters).

  This financial boost to regenerative farming could provide numerous opportunities for **Nevada Organic Phosphate** in funding its organic phosphate exploration and mining activities, kick-start research partnerships with institutions to enhance extraction methods & improve product efficacy, facilitate access to grants & incentives, improve supportive policies from the EPA and other government agencies to smooth-out regulatory permits and encourage sustainable mining practices, and increase overall demand for organic P2O5 as the push for sustainable farming grows further (USDA Agricultural Projections to 2034).

Organic Fertilizer Demand Growth

Figure 7. Global Organic Fertilizer Market Demand Growth- Global Estimates

Source: [Towards Chemical and Materials - Chemical and Materials Research & Consulting]

The current global organic fertilizer market value (in sales revenue) was estimated to be at US $ 13.1 billion as at the end of 2025 and is forecast to increase from approximately US$13.9 billion this year to around US$ 23.4 billion by 2035 (according to the independent research firm Towards Chemicals & Materials Research Consulting). The global market is expected to expand at a CAGR of 6-7% between 2026 and 2035.

The **USA's organic fertilizer market share** is relatively robust at 16-17% of the global total, or US$ 2.1 billion, and is rapidly growing in response to the growth in organic/regen farming and organic food demand growth (as indicated in the previous section). This is expected to grow at a CAGR of 7-8% up to 2035, which would bring the US market value to over US$ 5.5-6 billion.

Key producers include **ScottsMiracle-Gro, Biostar Organics, Sustane Natural Fertilizers, Ostara, Replenish**, and many others…. and they produce

a wide range of organic products for many end-use applications besides farm crops.

Why Farmers Will Want to Use NOP's Organic Phosphate Rock

Today's farmers are keen on **reducing their costs of agricultural inputs, improving soil health, while boosting yields and profits.**

Crop prices are extremely variable, even more so with climate change issues, so farmers want more stability in their take-home revenues. Addressing soil health with the use of organic fertilizers (and using fewer chemical ones) is one of many ways they can control more of these variables. Here are some benefits:

The excessive use of chemical fertilizers and pesticides has led to widespread soil degradation and contributed significantly to climate change. Over-reliance on synthetic fertilizers, such as MAP & DAP, depletes soil health by reducing microbial diversity, disrupting natural nutrient cycles, and causing acidification. Moreover, chemical fertilizers, particularly nitrogen-based ones, release nitrous oxide (N2O), a greenhouse gas nearly 300 times more potent than CO2, significantly accelerating global warming. To add to this, very little of the phosphorus in MAP or DAP actually is taken up by the plant or crop

The Consequences of Chemical Overuse on Soil Health

Chemical overuse negatively impacts soil structure, making it more compacted and less able to retain water. This degradation results in increased vulnerability to droughts and floods. Continuous application of chemical inputs can also lead to nutrient imbalances, depleting essential elements such as phosphorus and potassium while accumulating toxic levels of salts and heavy metals in the soil. These conditions create long-term damage, requiring costly remediation efforts to restore soil health.

Soil degradation due to chemical overuse results in reduced organic matter, lower water retention, and increased erosion. This degradation diminishes agricultural productivity, forcing farmers to use even more chemicals in a

destructive cycle. Additionally, runoff from excessive fertilizer application leads to water pollution, causing eutrophication in rivers and oceans, which devastates aquatic ecosystems.

The Climate Change Connection

The link between chemical overuse and climate change is profound. As synthetic fertilizers break down, they release not only nitrous oxide but also carbon dioxide through their energy-intensive production process. Industrial fertilizer manufacturing relies heavily on fossil fuels, particularly for ammonia synthesis via the Haber-Bosch process, which alone accounts for approximately 1-2% of global energy consumption and significant CO2 emissions.

Moreover, excessive fertilizer use leads to the loss of soil organic carbon (SOC), reducing the soil's capacity to sequester carbon. Healthy soils act as carbon sinks, capturing atmospheric carbon and mitigating climate change. However, chemically depleted soils release more carbon into the atmosphere, exacerbating global warming.

The Impact on Biodiversity

Overuse of chemical fertilizers and pesticides also threatens biodiversity, both above and below ground. Soil microbes, essential for breaking down organic matter and recycling nutrients, suffer from the toxic effects of synthetic chemicals. The decline in beneficial bacteria and fungi weakens plant immunity and reduces resilience to environmental stressors.

Above the soil, pollinators such as bees, butterflies and birds (Acceleration hotspots of North American birds' decline are associated with agriculture | Science) are severely impacted by chemical pesticide/fertilizer exposure. Studies show that neonicotinoid-based pesticides, widely used in industrial farming, contribute to colony collapse disorder in bees, disrupting ecosystems and food production. Declining biodiversity affects entire food chains, threatening agricultural sustainability in the long run.

The Role of Regenerative Agriculture

Transitioning to regenerative agriculture, including the use of biofertilizers and bio stimulants, can help mitigate these issues. Organic amendments enhance soil microbiology, improve carbon sequestration, and reduce the need for synthetic inputs. Sustainable practices such as cover cropping, crop rotation, and integrating biofertilizers can rebuild soil health while reducing agriculture's carbon footprint.

Regenerative agriculture emphasizes restoring soil health by focusing on natural nutrient cycling. By using compost, manure, and plant-based amendments, farmers can increase soil organic matter and improve fertility without relying on synthetic inputs. Practices such as reduced tillage and agroforestry also help maintain soil structure and increase resilience against climate-related impacts.

The Future of Sustainable Farming

Governments and agricultural organizations worldwide are recognizing the urgent need to transition toward sustainable farming practices. Incentive programs that support farmers in adopting regenerative methods are gaining momentum, offering financial assistance for implementing organic fertilizers, precision agriculture, and soil restoration projects.

Consumers, too, play a vital role in this transition by supporting sustainably grown produce. Increased demand for organic and regenerative agricultural products encourages more farmers to shift away from conventional chemical-intensive methods. Raising awareness about the environmental costs of chemical overuse and advocating for responsible farming policies will be crucial in addressing soil degradation and climate change in the coming decades.

By embracing regenerative agriculture and reducing dependence on synthetic fertilizers, farmers can rebuild soil health, enhance food security, and mitigate the environmental impacts of farming, ensuring a more sustainable and

resilient future for generations to come (The Impact of Chemical Fertilizer Overuse on Soil Quality and Climate Change - Zentide-2025).

Here are the **four top reasons** why sustainable regenerative agriculture is well suited to replace or compliment traditional farming methodologies and why farmers will want to use organic phosphate rock as part of their low-cost inputs:

1) To Counter the Negative Impacts of Chemical Fertilizers

When nutrients and other pollutants associated with animal manures and commercial chemical fertilizers are not managed & applied properly, they can affect plant and animal life (including humans) negatively, as well as costs (i.e., mitigation, etc.). Some of these impacts include algae blooms causing the depletion of oxygen in surface waters, pathogens and nitrates in drinking water, and the emission of odors and gases into the air.

Nutrients from manure and chemical fertilizers enter lakes and streams through runoff and soil erosion. Generally, when soil-test nitrogen (N) and phosphorus (P) applied amounts increase, greater amounts of plant-available N and P move with water. Runoff water from fields with high soil-test N and P may contain a high level of these dissolved nutrients, increasing the risk of contaminating streams, wetlands and lakes.

In addition, erosion carries fine particles of soil that are enriched with nutrients and can move easily into waterways and water tables.

Eroded soil particles with attached nutrients will accumulate as sediment in water resources and serve as a source of available nutrients during long periods of time, adding to the contamination problem.

Here are the **most detrimental negative impacts** on water and land:

WATER

Oxygen Depletion

When manure or commercial fertilizers enter surface water, the nutrients they release stimulate microorganism growth. The growth and reproduction of microorganisms reduce the dissolved oxygen content of the water body.

Without sufficient dissolved oxygen in surface water, fish and other aquatic species suffocate. The resulting dead fish and other aquatic species degrade the water quality and cause unpleasant odors.

Weed Growth and Algae Blooms

The number of plants and algae in a lake, pond or other water body increase with an increased supply of nutrients, particularly N and P. N and P are present in manure in sufficient quantity to be used as fertilizer for crop growth and will have a similar effect on algae and aquatic plants. As with crops, nutrient availability is the critical factor in the growth of aquatic plants and algae.

The nutrient present in the least amount for growth will limit the production in the aquatic system. Introduction of even small amounts of the limiting nutrient to crops or aquatic systems can increase production substantially. In the case of agricultural crops, this is a good thing.

However, increased production of aquatic plants and algae is not healthy for water resources. Eutrophication is the term used to describe the natural or human-accelerated process whereby a water body becomes abundant in aquatic plants and low in oxygen content.

As these aquatic plants die, microorganisms use the organic matter as a food source. Once again, the microorganisms grow and reproduce and use up the oxygen in the water. Any increase in the amount of aquatic plant growth ultimately will result in a reduced dissolved oxygen content of the water body, eventually suffocating fish and other aquatic species.

In addition to oxygen depletion, the potential exists for the algae to be toxic. Blue-green algae (cyanobacteria) can cause rashes, nausea and respiratory problems in humans and has been documented that it kills livestock that drink from affected water storages. See the NDSU Extension publication "Cyanobacteria Poisoning (Blue-green Algae)" for more information.

Ammonia Toxicity

Ammonia-contaminated runoff from fresh manure application sites is toxic to aquatic life. At high levels, ammonia in surface water will kill fish. Fish are relatively sensitive to ammonia in water. Concentrations as low as 0.02 parts per million (ppm) may be lethal. Surface water that manure impairs also may experience changes in species diversity because of ammonia toxicity.

Fecal Organisms

The fresh manure from warm-blooded animals has countless microorganisms, including bacteria, viruses, parasites and fungi. Some of the organisms are pathogenic (disease causing), and some of the diseases that animals carry is transmittable to humans, and vice versa.

Many states use fecal coliform bacteria as an indicator of pollution from warm-blooded animals, including humans. The test for fecal coliforms is relatively simple and inexpensive, compared with testing for specific pathogens.

Some fecal coliforms can be found in natural water sources, even without the influence of humans or their domestic animals. Birds, beaver, deer and other wild animals contribute fecal coliforms to surface water directly or in runoff.

Contamination from runoff and natural deposition are not the only ways for water to become impaired. If manure applications are mismanaged near wells, the risk of bacterial contamination of the groundwater via the well is greatly increased. Therefore, avoid surface application of manure where it can

come into direct contact with a well or other drinking water supply. In addition, when grazing near surface water sources, take measures to restrict livestock use.

Nitrate Toxicity

High levels of nitrates can be toxic to livestock and humans. Nitrates are not adsorbed to soil materials, so they may leach to groundwater. In some instances, stored or land-applied manures or nitrogen fertilizers have caused high concentrations of nitrates in water. Because nitrates freely leach down through the soil profile, nitrogen that is not used for crop or plant growth can reach the groundwater easily.

Nitrate in itself is not toxic to animals, but at elevated levels, it causes a disease called nitrate poisoning (http://tinyurl.com/NitratePoisoning).

High levels of nitrates in drinking water are known to cause methemoglobinemia (blue-baby syndrome) in human infants and other warm-blooded animals. In humans and livestock, nitrates interfere with oxygen uptake in the circulatory system.

Noxious Odors and Gases

Manure odors can be a nuisance for nearby neighbors and communities. Constant nuisance odors can degrade the quality of life for anyone subjected to them. In addition, people have a wide range of susceptibility to health effects from odors.

Gases are emitted from facilities throughout the year but are released at the highest rates during agitation, pumping and application of liquid manure systems or during cleanout and application of solid manure systems. Volatilization of ammonia to the atmosphere may become a water quality problem near animal production facilities when it is returned to the earth dissolved in rainfall (Environmental Implications of Excess Fertilizer and Manure on Water Quality | NDSU Agriculture).

LAND

Soil carries out an important ecological service for the sustenance and survival of life. Soil health management is vital for the maintenance of biodiversity and safeguarding sustainable agricultural production. So, retaining and preserving soil health has prime importance for ecosystem sustainability. The health of soil is regulated by soil properties, that is, physicochemical and biological properties. Modern agriculture is largely dependent upon chemical fertilizers, but when sustainable agriculture is the global target, the troublesome effects of chemical fertilizers cannot be ignored. Moreover, continuous utilization of chemical fertilizers is responsible for the decline of soil organic matter (SOM) content coupled with a decrease in the quality of agricultural soil and its ability to sequester carbon. It is estimated that globally , over 1/3 of fertile top-soils have been lost to over-use

of traditional tillage practices and chemical fertilizers, pesticides & herbicides (Kiss the Ground Film | Official Website).

In addition, the overuse of chemical fertilizers hardens the soil, reduces soil fertility, pollutes air, water, and soil, and lessens important nutrients of soil and minerals, thereby bringing hazards to the environment. Sole utilization of chemical fertilizers leads to weak microbial activity in the cropping system. Constant use of chemical fertilizers can alter the pH of soil, increase pests, acidification, and soil crust, which results in decreasing organic matter load, humus load, useful organisms, stunting plant growth, and become responsible for the emission of greenhouse gases (Chemical Fertilizers and Their Impact on Soil Health | Springer Nature Link-2021).

2) To Reduce GHG Emissions

Chemical fertilizers also produce greenhouse gases after farmers apply them to their fields. Crops only take up, on average, about half of the nitrogen they get from fertilizers. Much of the applied fertilizer runs off into waterways, or gets broken down by microbes in the soil, releasing the potent greenhouse gas nitrous oxide into the atmosphere. Although nitrous oxide accounts for only a small fraction of worldwide greenhouse gas emissions, pound for pound, nitrous oxide warms the planet 300 times as much as carbon dioxide.

Between manufacturing and use on farms, all fertilizers today contribute an estimated 3-5% of all greenhouse gas emissions worldwide (with all agriculture activities on the farm causing approximately 11% of all GHG emissions in total and 30% from seed to table, overall (**Sources of Greenhouse Gas Emissions | US EPA- chemical fertilizers being a subset of this total).**

3) To Improve Agri-business Fundamentals & Reduce Risk

According to a new report by the Cambridge Institute for Sustainability Leadership (CISL) titled “Breaking down Silos”, intersecting climate, nature and social vulnerabilities increase credit, asset and sovereign risk, weaken recovery

times and raise portfolio correlation issues. As ecosystems degrade, costs rise, yields fall and supply chains are disrupted, reducing borrowers' abilities to repay loans, which thereby increases systemic risk. In agriculture, the economic value of crop production is 12% to 31% lower due to declining pollination as insects, birds and other pollinators succumb to climate change and other human-driven pressures such as land-use change, intensive farming techniques and harmful chemical pesticide/fertilizer use.

These risks are particularly visible in global agrifood systems, which generate nearly 30% of global emissions but attract only 7% of climate investment. The report shows that water-pollution, droughts, floods and inequality cascade into higher defaults, impaired collateral values and inflationary pressures that erode long-term returns (cisl_-_breaking_down_silos_report_2026.pdf).

In addition, the economic returns of regenerative agriculture are becoming increasingly clear.

An analysis by Boston Consulting Group (BCG) and One Planet Business for Biodiversity (OP2B) indicates that regenerative agriculture brings a positive return on investment in Europe and North America after a 3–5 year transition. An analysis of wheat farmers in the US state of Kansas shows that, over time, regenerative agriculture can increase their profitability by up to 120%.

A recent study by the European Alliance for Regenerative Agriculture (EARA) reports that, between 2020 and 2023, European farmers adopting regenerative practices achieved, on average, just 2% lower yields in terms of kilocalories and proteins, while using 62% less synthetic nitrogen fertilizer and 76% less pesticides per hectare. With this study, EARA estimates that, through regenerative agriculture, farmers in Europe could mitigate 84% of the net greenhouse gas emissions from the EU agricultural sector.

A study by Techno Serve on regenerative agriculture in 10 countries in Latin America, sub-Saharan Africa and Asia reports that, through a 7-year transition period, regenerative practices adopted at scale in the coffee sector could lead to a 62% increase in farmer income for 3.2 million farms and a 38% decrease in coffee emissions across 2.7 million hectares annually.

An additional analysis by the Boston Consulting Group outlines that Brazil has the potential to lead a tropical agriculture transformation and increase food security for the world by raising productivity while cutting emissions through regenerative practices. Transitioning the Cerrado region in Brazil represents a USD $55 billion investment opportunity through 2040, with an average 19% internal rate of return (Guidebook-for-Landscape-Investments-WBCSD.pdf).

4) To Improve Soil/Plant Health & Nutrient Values

Regenerative agriculture, by its very nature has the ability to change the biome of farm and feedstock fields immeasurably. While the techniques for caring for the soil vary with the context of each farm, generally, regenerative growers limit mechanical soil disturbance. Instead, they feed and preserve the biological structures that bacteria, fungi, and other soil microbes build underground—which provide above-ground benefits in return.

Regenerative farmers and ranchers make every effort to reduce their reliance on synthetic inputs, such as herbicides, pesticides, and chemical fertilizers. In the process of prioritizing soil health, many growers naturally use fewer chemical inputs. Instead, as beneficial insects and wildlife return and diverse crop and livestock rotations disrupt weed cycles, the ecosystem becomes more resilient and soil health returns. And with fewer toxic chemicals, there are reduced human health risks as well as increased financial independence from avoiding the recurring costs of synthetic inputs (Regenerative Agriculture 101).

Organic Phosphate Fertilizers- a key contributor to improved soil/plant health

Here are seven high-impact advantages of well-managed phosphorus nutrition, especially when using organic phosphate rock:

1. **Boosts seedling vigor** – promotes early growth and robust stand establishment.

2. **Stimulates root growth** – encourages branching and deeper roots, enhancing water/nutrient access.
3. **Improves flower and fruit formation** – supports reproductive development that drives yield.
4. **Enhances nitrogen fixation** – in legume systems, phosphorus (P) supports nodulation and nitrogen (N) fixation.
5. **Speeds up crop maturity** –with efficient P uptake, crops often reach maturity earlier.
6. **Increases yield potential** – more energy, better root systems, stronger reproductive success.
7. **Strengthens disease and drought resistance** – better phosphorus status supports stress resilience (High Phosphorus Fertiliser: Unlocking Plant Potential | VLSCi).
8. Low cost and easy to apply- better returns for the farmer

Whether organic phosphate rock fertilizer is used in traditional or regenerative/organic farming practices, it is a critical component for restoring soil health, increasing carbon sequestration (instead of denuded soils being a net source of CO2 emissions into the atmosphere), improving plant nutrient uptake and nutritional values, enhancing biodiversity and enhancing overall land/water dynamic systems.

NEVADA ORGANIC PHOSPHATE- leading the second great agricultural revolution

As with the first great agricultural revolution that North America experienced after the Second World War, the **second great ag revolution** is unfolding in America with the rapid adoption of organic & regenerative agricultural practices, as described in the above section.

So far, the first six drill holes at Nevada Organic Phosphate's Murdock Mountain exploration site has yielded a weighted average grade of 10.93% P_2O_5. (These preliminary results have been reviewed by a Qualified Person with NOP as defined by NI-43-101 requirements). This is also now supported by a growing body of geochemical evidence showing that the material is not simply a phosphate ore, **but a naturally balanced, multi-nutrient mineral fertilizer and soil conditioner aligned with the needs of organic and regenerative agriculture**. Ongoing analysis indicates meaningful concentrations of calcium, magnesium, potassium, iron, manganese, silicon, and trace micronutrients, all occurring in forms compatible with organic production systems. This creates a slow-release nutrient profile that supports soil health, microbial activity, and long-term fertility, key attributes for growers seeking alternatives to synthetic fertilizers.

Figure 8. Preliminary Assay Nutrient Levels for First Six NOP Drill Holes

Primary Beneficial Nutrients

Nutrient	Assay Level	Agronomic Role	Value to Organic Agriculture
Calcium (CaO)	28.96%	pH buffering, root strength, soil structure	Major co-benefit in acidic soils
Magnesium (MgO)	1.83%	Chlorophyll formation, enzyme activation	Supports plant vigor and photosynthesis
Silicon (SiO_2)	36.54%	Stress tolerance, disease suppression	Increasingly recognized in organic systems
Iron (Fe_2O_3)	1.23%	Chlorophyll formation, microbial activity	Enhances soil biology and plant health
Zinc (Zn)	233 ppm	Enzyme activation, root development	Common deficiency in acidic soils
Manganese (Mn)	90 ppm	Photosynthesis, disease resistance	Beneficial in weathered soils
Molybdenum (Mo)	8 ppm	Nitrogen fixation, nitrate reduction	Critical for legumes and soil microbes
Sulfur (S)	0.5%	Helps build proteins, enzymes, or chlorophyll precursors.	Helps microbial mineralization and unlocks organic N

As well, the company's Murdock site continues to demonstrate an exceptionally clean geochemical signature, as of current tested samples. Heavy metals including cadmium, arsenic, lead, and chromium occur at levels far below AAPFCO (Association of American Plant Food Control Officials (AAPFCO) - NASDA) and USDA organic thresholds with also the absence of radionuclide concerns, further **differentiates NOP from most global sedimentary and igneous phosphate sources**. This low-impurity profile reduces certification risk for organic growers and provides a defensible regulatory advantage as global contaminant limits tighten. In a market where many phosphate products struggle with cadmium and other regulated impurities, NOP's chemistry, as tested so far, stands out as inherently compliant and low risk.

Figure 9. Heavy Metal Content Analysis for First Six Drill Hole Samples

Clean Chemistry Advantage

		Heavy Metals (ppm)			
Element	**NOP (sedimentary)**	**USA (sedimentary)**	**Brazil + Peru (sedimentary)**	**Spain (sedimentary)**	**Kola (igneous)**
As	8.8	5–20	3–15	5–20	
Cd	2.99	5–30	1–20	5–25	
Cr	392	50–300	50–250	50–300	100–500
Cu	39.9	5–50	5–40	5–40	5–30
Hg	0.201				
Ni	78.6	10–100	10–80	10–100	20–150
Pb	4.5	5–30	5–25	5–25	
Zn	233	20–150	20–120	20–150	10–80

Please see the company's press of February 10, 2026 for more details- Nevada Organic Phosphate Provides Update on Multi-Nutrient Chemistry for Organic Phosphate and Regenerative Agriculture – NEVADA ORGANIC PHOSPHATE.

Nevada Organic Phosphate Inc. is a phosphate exploration company advancing the Murdock Project in northeastern Nevada. So far, the first 6 drill core assays indicate low levels of regulated impurities, but further testing work is required to determine beneficiation requirements. The company has recently conducted an exploration program which expanded the phosphate zone's strike length from 6.6km to 33.4km, yet no complete resource size has been defined as yet. This will likely be forthcoming, as NOP continues its exploration program into this spring & summer (supervised by the company's Qualified Person).

For more up-to-date information on the progress of the company's Murdock Mountain, NV exploration programs, drill results, milestones and next steps, please go to the company's website at NEVADA ORGANIC PHOSPHATE and view their latest corporate presentation here: PowerPoint Presentation.


NEVADA
ORGANIC PHOSPHATE