Fertilizer and the Middle East Conflict

Major combat operations in Iran and escalating military tensions in the Middle East have immediately created additional volatility in the global fertilizer market. Increased volatility is a result of uncertainty related to both direct production impacts and secondary transportation restrictions resulting in the limitation of exports from neighboring countries that rely on the Strait of Hormuz, one of the world's most strategically important maritime chokepoints, which was closed by Iran.

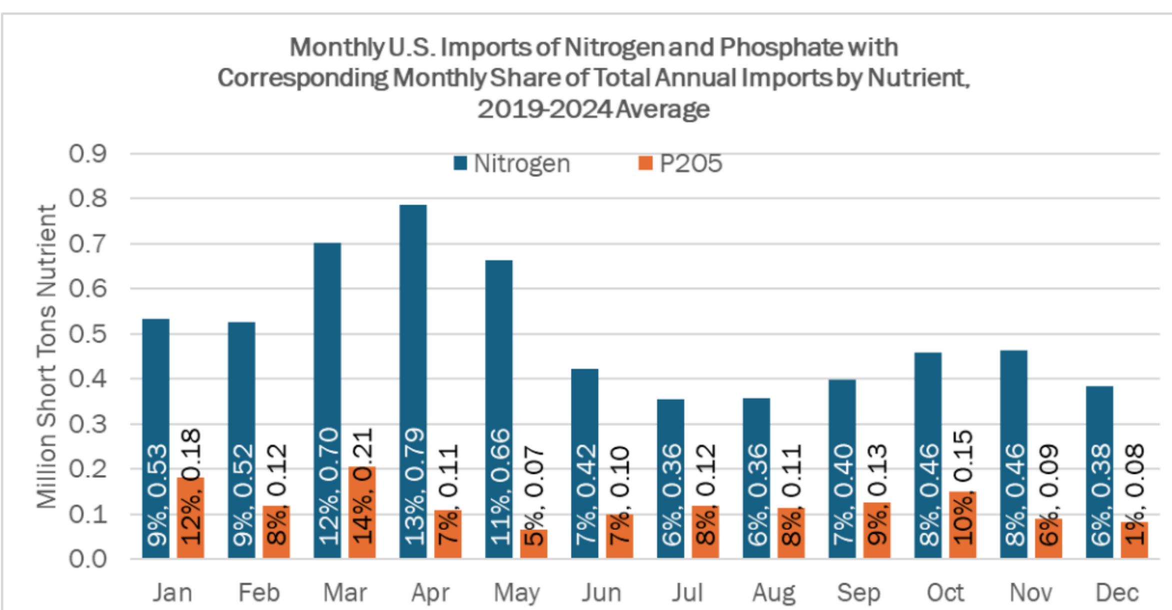
Persian Gulf countries are significant producers and exporters of key fertilizers and fertilizer inputs – natural gas, ammonia, urea, phosphate fertilizers and sulfur. Those countries can be categorized by their level of exposure to risks. "High-risk" exporters are those that are directly involved in the conflict or depend on the strait as their primary shipping route. "At-risk" exporters are those with access to alternative shipping routes, but who could still face indirect market disruptions. Sustained operations and maritime disruptions would have far-reaching effects on global fertilizer markets.

The United States relies on a combination of domestic production and imports to meet fertilizer demand. Recently, the import share of domestic supply that are most significantly impacted by this conflict are approximately:

Ammonia – 10% | Urea – 35% | Processed phosphates (MAP, DAP & TSP) – 40% | Sulfur – 10–20%

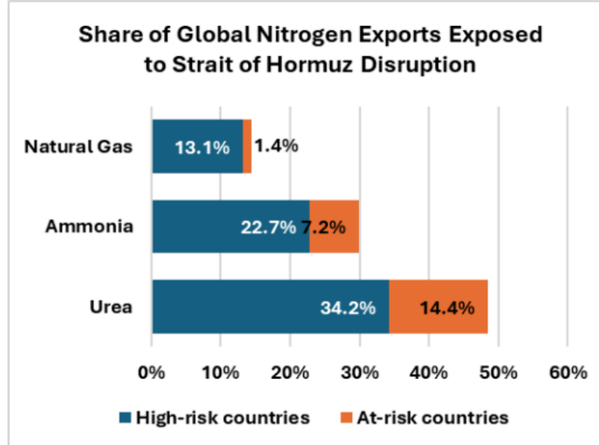
Imports of fertilizer into the United States occur in every month, though the share of total annual imports that occurs in each month varies by nutrient. As a result, the impact on import levels will vary depending on the length of the conflict and the nutrient in question.

These figures underscore the importance of both strong domestic manufacturing capacity and reliable global trade relationships in maintaining a stable and affordable fertilizer supply chain.



NITROGEN FERTILIZERS

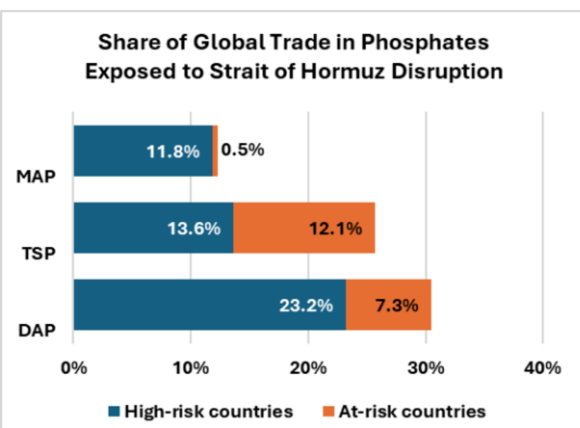
The risk to nitrogen fertilizers is two-fold. The first risk is related to natural gas, which is the primary feedstock used to produce ammonia, the foundational input for all nitrogen fertilizers. The combined countries categorized as either "High-risk" or "At-risk" accounted for 14.5% of global natural gas exports in 2024. Far and away the most significant country among those impacted is Qatar, which accounted for 10% of global natural gas exports in 2024, making it the fourth-largest natural gas exporter globally, behind the United States, Russia, and Norway. Regionally it is also important to know that Israel (1%) provides Egypt with nearly all of its natural gas, which becomes a critical point in the discussion around ammonia and urea exports.



Further, the disruption of natural gas exports from this region has led to significant increases in natural gas prices in other fertilizer-producing regions, like the European Union. The benchmark TTF front-month natural-gas price in the Netherlands climbed as much as 51% on March 2 from last week's close, following the news that Qatar shut down LNG production. In 2022, when European natural gas prices similarly rose, European ammonia production declined significantly, leading the EU to import ammonia and nitrogen fertilizers, further straining the global nitrogen market. The EU accounted for 10% of global urea imports in 2024, so this impact is not inconsequential. The longer the conflict persists the more likely this scenario is to occur again in 2026.

The second risk is to exports of ammonia and urea (the world's most commonly used nitrogen fertilizer). The combined countries categorized as either "High-risk" or "At-risk" accounted for nearly 30% of global ammonia exports in 2024. Major exporters in the region include Saudi Arabia (14%), Iran (5%) and Egypt (4%). Urea, produced from ammonia, also has significant exposure. Nearly 49% of global urea exports originates from countries potentially affected by regional instability. Major exporters include Iran (11%), Qatar (11%), Saudi Arabia (8%) and Egypt (8%).

PHOSPHATE FERTILIZERS



Phosphate fertilizers represent another segment of global fertilizer markets exposed to potential disruptions tied to the Middle East. Key phosphate products—including monoammonium phosphate (MAP), diammonium phosphate (DAP), and triple superphosphate (TSP)—are produced and exported by countries located near the Strait of Hormuz or within the broader region.

For MAP and DAP, Saudi Arabia, classified as a "High-risk" country, is the dominant producer and exporter. Saudi Arabia accounted for approximately 12% of global MAP exports and 23% of global DAP exports in 2024. "At-risk" exporters—including Egypt and Jordan—accounted for an additional 7% of DAP exports. Together, this means 23% of global MAP exports and over 30% of global DAP exports are tied to countries affected by disruptions.

Similarly, TSP trade also shows meaningful exposure, with "High-risk" exporters accounting for approximately 14% of global exports, largely from Israel, and "at risk" exporters—including Lebanon (6%) and Egypt (6%)—accounting for an additional 12%. Together, 26% of global TSP exports are tied to countries affected by disruptions.

When considered together, more than one-fifth of global trade in MAP, DAP and TSP originate from countries exposed to disruptions associated with the Strait of Hormuz or broader regional instability. Countries categorized as "High-risk," including Saudi Arabia and Israel, account for 17% of global exports, while "At-risk" countries—including Egypt, Jordan, and Lebanon—account for an additional 5%.

SULFUR

Sulfur, is an important fertilizer in and of itself, as is its by-product sulfuric acid, which is a key input in phosphate fertilizer production. Sulfuric acid is utilized for processing phosphate rock into fertilizers such as DAP, MAP, and TSP. Countries categorized as “High-risk,” including Saudi Arabia, Bahrain, the United Arab Emirates, Kuwait, and Qatar, accounted for approximately 41% of global sulfur exports in 2025, while Iran contributed an additional 4%. Countries considered “At-risk,” including Jordan, Lebanon, Oman, Syria, and Egypt, accounted for roughly 1% of global exports. Taken together, nearly 50% of global sulfur trade is tied to countries exposed to potential disruptions associated with the Strait of Hormuz. Because sulfur is an essential input for producing phosphate fertilizers, disruptions to these supply chains could further constrain global fertilizer production and amplify price volatility across agricultural input markets.

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