DEP

Agricultural Marketing Service

[Doc. No. AMS-AMS-22-0027]

Access to Fertilizer: Competition and Supply Chain Concerns

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Notice; request for public comments.

SUMMARY: On July 9, 2021, President Biden issued an Executive Order titled "Promoting Competition in the American Economy," which creates a White House Competition Council and directs Federal agency actions to enhance fairness and competition across America's economy. The Executive Order directs the Council and member agencies to "identify and advance any additional administrative actions necessary" to promote competition on an ongoing basis. The Secretary of Agriculture (the Secretary) takes note of wide-ranging concern from agricultural producers regarding access to and pricing of fertilizer. This notice requests comments and information from the public to assist the U.S. Department of Agriculture (USDA) in identifying relevant difficulties, including competition concerns, and potential policy solutions for the fertilizer market.

DATES: Comments must be received by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: All written comments in response to this notice should be posted online at www.regulations.gov. Comments received will be posted without change, including any personal information provided. All comments should reference the docket number AMS-AMS-22-0027, the date of submission, and the page number of this issue of the **Federal Register**. Comments may also be sent to Jaina Nian, Agricultural Marketing Service, USDA, Room 2055-S, STOP 0201, 1400 Independence Avenue, SW, Washington, D.C. 20250-0201. Comments will be made available for public inspection

at the above address during regular business hours or via the Internet at www.regulations.gov.

FOR FURTHER INFORMATION CONTACT: Jaina Nian, Agricultural Marketing Service, at (202) 378-2541; or by email at jaina.nian@usda.gov.

SUPPLEMENTARY INFORMATION:

I. Background

On July 9, 2021, President Biden issued Executive Order 14036, "Promoting Competition in the American Economy" (86 FR 36987) (E.O. 14036). E.O. 14036 focuses on the need for robust and open competition in the American economy to secure broad and sustained economic prosperity, promote the welfare of workers, farmers, small businesses, startups, and consumers, and prevent the threat that excessive market concentration poses to basic economic liberties and democratic accountability. With respect to agriculture, E.O. 14036 explains:

> Farmers are squeezed between concentrated market power in the agricultural input industries — seed, fertilizer, feed, and equipment suppliers — and concentrated market power in the channels for selling agricultural products. As a result, farmers' share of the value of their agricultural products has decreased, and poultry farmers, hog farmers, cattle ranchers, and other agricultural workers struggle to retain autonomy and to make sustainable returns.

Additionally, E.O. 14017 "America's Supply Chains" (No. AMS-TM-21-0034) (86 FR 20652) (E.O. 14017) directs the Secretary to examine and address risks to supply chains.

As part of USDA's broad and sustained focus on competition and supply chain resiliency, the Secretary takes note of wide-ranging concerns from agricultural producers regarding concentrated market power in the fertilizer industries. Farmers depend on nitrogen, phosphate, and potassium (potash) which are key nutrients in manufactured fertilizer. A handful of fertilizer companies control the channels through which farmers

obtain these nutrients to raise a productive crop.[1] In turn, these crops may supply inputs for other agricultural production enterprises, like livestock.

Two companies supply the vast majority of fertilizer potash in North America.[2] Four companies supply 75 percent of U.S. nitrogen fertilizers.[3] These companies' possession of scarce resources, often in other countries,[4] and control over critical production, transportation, and distribution channels raises heightened risks relating to concentration and competition.[5]

Additionally, concentration in the fertilizer industry constrains farmers' options for nutrients. In 1984, many small and medium-sized firms produced nitrogen fertilizer in quantities that met or exceeded domestic demand. However, as domestic industry consolidated through mergers,[6] the number of U.S. firms declined from 46 to 13 firms

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[1] One trading consortium of three production firms and one U.S. marketing firm control more than one-third of global potash production. Eight firms account for just over half of global production capacity in phosphate fertilizers. Fertilizer, comprising 21 percent of total agricultural input sales, is also among the largest agricultural input markets in terms of sales, with the largest being animal nutrition (40 percent of total sales). Fertilizer and crop seed are among the highest input costs per price received for farmers. Fuglie, Keith O., Paul W. Heisey, John L. King, Carl E. Pray, Kelly Day-Rubenstein, David Schimmelpfennig, Sun Ling Wang, and Rupa Karmarkar-Deshmukh, (2011), "Research Investments and Market Structure in the Food Processing, Agricultural Input, and Biofuel Industries Worldwide", ERR-130, USDA Economic Research Service, available at https://www.ers.usda.gov/webdocs/publications/44951/11777_err130_1_.pdf?v=8531.8

[2] Facts and figures aggregated from various other primary sources. Kreisle, N., (2020), "Price Effects from the Merger of Agricultural Fertilizer Manufacturers Agrium and PotashCorp", FTC Bureau of Economics Working Paper #345, available at https://www.ftc.gov/reports/price-effects-merger-agricultural-fertilizer-manufacturers-agrium-potashcorp

[3] Bekkerman, A., Brester, G., & Ripplinger, D. (2020), "The History, Consolidation, and Future of the U.S. Nitrogen Fertilizer Production Industry", Choices, Quarter 2, available at https://www.choicesmagazine.org/choices-magazine/submitted-articles/the-history-consolidation-and-future-of-the-us-nitrogen-fertilizer-production-industry.

[4] For example, one firm (which acquired the second biggest North American firm in 2016) in Canada accounted for 20 percent of the share of global potash mine capacity, followed by other firms in Russia (13 percent), Belarus (13 percent), and Chinese companies (11 percent)[2]. China, whose government predominates its fertilizer markets, has by far the largest fertilizer industry in the world, and accounted for 20 percent of total global R&D in 2006[1].

[5] The merged company was estimated in 2016 to control 60 percent of North American potash capacity and 30 percent for nitrogen and phosphate. (2016), "Potash Corp, Agrium talk merger; competition scrutiny expected", Reuters, available at https://www.reuters.com/article/us-agrium-m-a-potashcorp/potash-corp-agrium-talk-merger-competition-scrutiny-expected-idUSKCN1151UT

[6] In the U.S. the number of companies producing phosphoric acid dropped from 12 to 7 due to mergers from 2002 to 2008. Three companies control 80 percent of the production capacity of phosphoric acid in the U.S. Between 1999 – 2008, the number of companies producing muriate of potash fell by half, resulting in two companies in 2008 owning 100 percent of US potash production capacity. Wen-Yuan Huang, (2009) "Factors Contributing to the Recent Increase in U.S. Fertilizer Prices, 2002-08," Agricultural Resources Situation and Outlook AR-33, U.S. Department of Agriculture, Economic Research Service, available at: https://www.ers.usda.gov/webdocs/outlooks/35824/10935_ar33.pdf?v=1826.4

between 1984 and 2008, a reduction of 72 percent.[7] Research and development (R&D) spending in the fertilizer industry has remained limited—around 0.21 to 0.25 percent of net sales.[8] Limited R&D is concerning given the concentration and depletion of elemental reserves, some located in politically unstable areas abroad.[9]

Increasing concentration exposes farmers to a range of pricing-related risks. Fertilizers, especially nitrogen (N) nutrients, are already in the top three costs for farmers. Fertilizer costs may swing dramatically up because of individual or layered world events[10] such as strong global demand for agricultural commodities,[11] rising energy prices,[12] export restrictions by major global suppliers,[13] trade sanctions,[14] or war as with

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[7] Prior to the 1980s, U.S. nitrogen fertilizer production by many small firms met or exceeded total domestic demand. However, between 1984 and 2008, the domestic industry consolidated, with larger firms expanding. The number of active ammonia-producing plants decreased from 59 to 22. In 2018, the four largest U.S. ammonia producers account for 75 percent of total U.S. output. Similarly, one merger in 2016 led to the combined company controlling 60 percent of North American potash capacity and 30 percent for nitrogen and phosphate. (2016)"Potash Corp, Agrium talk merger; competition scrutiny expected," Reuters, available at https://www.reuters.com/article/us-agrium-m-a-potashcorp/potash-corp-agrium-talk-merger-competition-scrutiny-expected-idUSKCN1151UT.

[8] David Schimmelpfennig & Keith Fuglie, & Paul Heisey, (2011), "Private research and development for synthetic fertilizers," 67-74, USDA Economic Research Service available at https://www.ers.usda.gov/webdocs/publications/44951/11777_err130_1_.pdf?v=3767.6.

[9] The shortage of phosphorus, for example, has prompted some to term fertilizer a "geostrategic time bomb." Vaccari, David, (2009), "Phosphorus Famine: The Threat to Our Food Supply," SCIENTIFIC AM, available at http://www.scientificamerican.com/article.cfm?id=phosphorus-a-looming-crisis. See also Schmundt, Hilmar, (2010), "Essential Element Becoming Scarce: Experts Warn of Impending Phosphorus Crisis," DER SPIEGEL ONLINE INT'L, available at https://www.spiegel.de/international/world/essential-element-becoming-scarce-experts-warn-of-impending-phosphorus-crisis-a-690450.html.

[10] For example, in 2019, a substantial reduction in Chinese purchases of U.S. soybeans may have caused Corn Belt farmers to shift to corn production, which is a more nitrogen-intensive crop. J. Baffes, & W. Koh,(2019), "Fertilizer Market Outlook," World Bank Blogs, available at https://blogs.worldbank.org/developmenttalk/fertilizer-market-outlook-potash-prices-rise-2019-urea-and-phosphates-remain.

[11] In 2020, during the early pandemic, relatively inexpensive fertilizer relative to crop prices (1.44, compared to .96 average from 2001 - 2021) led to strong demand for fertilizers in the U.S., Brazil, and China. J. Beghin,L. Nogueira (2021), "A Perfect Storm in Fertilizer Markets," Department of Agricultural Economics at Clayton Yeutter Institute, available at https://cap.unl.edu/crops/perfect-storm-fertilizer-markets.

[12] For instance, natural gas makes up 80 percent of the cost to produce ammonia for nitrogen fertilizer. Prices for natural gas are up four to five times higher than normal. Elkin, E., Durisin, M. (2021), "Fertilizer Prices Are Getting More Expensive in Europe, Adding to Food-Inflation Concerns," Bloomberg Markets, available at https://www.bloomberg.com/news/articles/2021-10-29/european-fertilizer-prices-set-to-surge-amid-energy-squeeze?sref=c4HfBhdW.

[13] China, for example, a key supplier of urea, sulphate, and phosphate, has moved to curb fertilizer exports. (2021), "China's Curbs on Fertilizer Exports to Worsen Global Price Shock, Bloomberg Markets," available at https://www.bloomberg.com/news/articles/2021-10-19/china-s-curbs-on-fertilizer-exports-to-worsen-global-price-shock?sref=c4HfBhdW.

[14] U.S. and European sanctions against Belarus, for instance, have halted its fertilizer shipments. Belarus accounts for about 10-12 million tons of fertilizer exported, or a fifth of global supply. Elkin, E., Skerritt,

the recent Russian invasion of Ukraine.[15] Price volatilities may stem from a small number of firms controlling the few channels for production, transportation,[16] and distribution, which may give them the market power to, among other harms, raise costs for farmers. In 2021, for instance, the prices U.S. farmers paid for fertilizers increased over 60 percent. Nitrogen fertilizers prices increased 95 percent, and potash fertilizers increased over 70 percent. A recent study finds that feed grain farms in 2022 could face an increase of cost of $128,000 per farm due to higher fertilizer cost.[17]

As part of executing our responsibilities under the E.O. 14036 and E.O. 14017, USDA seeks information to assist us in identifying and addressing competition-related challenges in the U.S. fertilizer market and other obstacles to producers accessing affordable, responsibly manufactured fertilizer.

We are further interested in comments as to how the matters raised may be relevant to promoting fair and competitive markets and local and regional food systems, creating new market opportunities (including for value-added agriculture and value-added products), advancing efforts to transform the food system, meeting the needs of the agricultural workforce, supporting and promoting consumers' nutrition security,

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J., Ribeiro, T., (2022), "Fertilizer Markets Roiled by Belarus Potash Force Majeure," Bloomberg Business, https://www.bloomberg.com/news/articles/2022-02-17/belarus-potash-maker-roils-fertilizer-markets-with-force-majeure?sref=c4HfBhdW.

[15] Russia accounts for 15 percent of the global trade in nitrogen fertilizers and 17 percent of global potash fertilizer exports. Additionally, Russian exports of natural gas, which is a key ingredient for the production of nitrogen fertilizers, account for 20 percent of global trade. Ukraine is an important supplier of cereal, which requires fertilizer. North Africa and the Middle East import over 50 percent of cereal needs, wheat, and barley from Ukraine and Russia. Glauber, J. & Laborde, D., (2022), "How will Russia's invasion of Ukraine affect global food security?," International Food Policy Research Institute, available at https://www.ifpri.org/blog/how-will-russias-invasion-ukraine-affect-global-food-security.

[16] Transportation costs accounted for 22 percent of the cost of ammonia shipped from Trinidad and Tobago to the U.S. Gulf (and up the Mississippi River by barge); and more than 50 percent of the cost of ammonia shipped from Russia Togliatti to the Gulf. Ammonia must be transported in refrigerated vessels or pressurized containers (barge). Because of this and increasing rail rates, the cost to ship ammonia by rail is 44 percent higher than by barge. Increasing freight service costs have also contributed to increased costs of fertilizer.

[17] "Economic Impact of Higher Fertilizer Prices on AFPC's Representative Crop Farms," Joe L. Outlaw et al, Agricultural & Food Policy Center, Department of Agricultural Economic, Texas A&M AgriLife Research Briefing Paper 22-01, January 2022, available at https://afpc.tamu.edu/research/publications/files/711/BP-22-01-Fertilizer.pdf.

particularly for low-income populations, supporting the needs of small to mid-sized and underserved producers and processors, and advancing environmental stewardship.

II. Written Comments

USDA encourages commenters, when addressing the elements below, to clearly indicate the question their comments are responding to by repeating the text of the question before their response. This would assist USDA in more easily reviewing and summarizing the comments received in response to these specific comment areas. In addition, USDA welcomes commenters to refer to, with appropriate explanation, any views set forth in recently or previously submitted comments, such as those to E.O. 14017 "America's Supply Chains" (No. AMS-TM-21-0034) (86 FR 20652).

To help USDA identify challenges and solutions in the fertilizer market, USDA is seeking comments on all aspects of the market structure for fertilizer as it affects agricultural producers. We are particularly interested in how fertilizer market challenges affect small to mid-sized producers.

Our request for comment includes but is not limited to the following elements. The questions below are meant to stimulate comments and are not intended to represent particular views of USDA or any other government agency. Commenters should feel free to respond to those they feel most relevant to them, or as their time and interests permit. Comments may overlap or be organized as the commenter feels most appropriate. Please offer descriptive or quantitative information, as available and relevant.

1) Please describe challenges and concerns with market concentration and power in the fertilizer industries, including the extent of control by any firms over farmers' and business' access to fertilizer, pricing, availability, transportation and delivery, quality, and any other contract terms or other factors. Please describe how these challenges have developed or evolved over time, and any details on geographic or other divergences

within various regions of the United States or between the United States and international markets for fertilizer.

2) Please comment on both long and short-term trends in fertilizer prices. What role have fertilizer, crop prices, or availability of key raw materials and manufacturing played in any changes? Has price volatility increased and if so, what accounts for this increase in volatility? Please comment on any trends and the relationship of fertilizer prices to prices of relevant crops, such as corn and soybeans.

3) Please share your views on whether the existing fertilizer market is sufficiently competitive. If you believe it is not, how do competition problems manifest themselves? For example, is there evidence of collusion, market manipulation, or other anticompetitive practices among competitors, buyers of farm products, commodity traders or related financial firms to fix or alter prices, allocate markets, or restrict from where a farmer buys inputs and sells product? Is there evidence of private or public communications by fertilizer companies relating to price, output or supply that appear to go beyond those necessary to communicate important information to customers?

4) What effect have these mergers had on a merged firm's market power and the ability to squeeze farmers or squeeze out competitors? Are there indications that firms have made it harder for new fertilizer firms to start up and grow? Is there evidence that firms have controlled or reduced supply to keep supply low and prices high? Have certain mergers allowed the acquisition of technologies or businesses that produce, transport, or retail fertilizer that competitors rely on, with the effect of lessening competition? Is there evidence of merged firms using their market power to price below cost or run losses in certain segments to undercut competitors or potential new market entrants?

5) What role do contractual or sales practices in fertilizer play with regard to producer access or prices paid to fertilizer? Have contractual or sales practices changed recently, or over time? Has the duration of these contracts changed over time and if so, how? Do some contracts require farmers to buy or use fertilizer from one supplier? Is there evidence of fertilizer companies preferentially pricing products differently for some farmers or dealers and not others? To what extent and in what ways do buyers of farm products influence farmers' use of fertilizer?

6) Please describe any requirements or inducements to bundle a main product (fertilizer) with another product or service, and any impacts on competition. For instance, does such a practice induce a farmer's lock-in or allow the firm offering the main product (fertilizer) with the secondary product (e.g.: pest management chemical or seed) to exclude competitors from offering the second product? What impacts do any of the contractual requirements listed above or any other contractual or sales practices have on competition?

7) How do transportation and delivery affect fertilizer competition and access to fertilizer? For instance, the U.S. receives imports of fertilizer derivatives through the Gulf of Mexico, and ships fertilizer product up the Mississippi River. To what extent does market power by fertilizer or applicable firms over these or other key transportation channels affect competition and farmer's access to fertilizer? What risks relating to supply chain, labor or other disruptions are most relevant?

8) Please comment on the U.S. agricultural system's reliance on foreign supply of some fertilizers and global supply chain risks that could result from trade disruptions. Please comment on how the conflict in Ukraine may be impacting fertilizer markets. If other supply chain or trade disruptions have been experienced, please describe the effects and challenges in dealing with such events. Would greater availability of domestic or

North American options mitigate risks? Would reducing dependence on suppliers from any one country or region mitigate risks? What tools might be deployed to achieve those ends?

9) Please comment on sustainability, climate, and other environmental concerns and risks relating to fertilizer markets. Have market concentration and power exacerbated these challenges and risks? Have they facilitated sectoral adjustment for climate and sustainability purposes? Would shifting fertilizer production to countries with high standards on labor and environmental protection improve competition, better manage sustainability risks, or otherwise improve public interest outcomes? What other strategies may exist to raise sustainability standards along supply chains?

10) What obstacles exist to the financing and development of new fertilizer capacity that would enhance the competitiveness of fertilizer markets? Would new or expanded domestic manufacturing, mining, processing, or alternative fertilizer production capacity help promote access to and affordability of fertilizer for agricultural producers? Are there existing "shovel ready" manufacturing, mining, or other processes that could or should be adjusted to facilitate new fertilizer production? Are there other potential new entrants in the near or medium-term? How might USDA best support investment in new fertilizer capacity in the U.S.?

11) How can USDA further support more efficient use of fertilizer? Are current precision agriculture tools effective at reducing fertilizer application rates without impacting yield? Could sub-field management of application rates improve economic resiliency of farms? Are there tools that USDA could support to facilitate better application rates, timing, and appropriate use of existing fertilizer sources? How could risk management tools such as crop insurance help with yield gaps from reduced nitrogen application rates, for example? How could USDA's working lands and other

conservation programs better support more target and efficient use of fertilizer? How might adverse community, labor, and environmental costs arising from the production fertilizer in certain geographies be better factored into USDA grants, loans, or regulatory programs? Are there ways USDA could support more effective use of other fertilizers (e.g.: manure) from livestock? Could considering these factors improve competition in certain markets? Please share your views.

12) Are there concerns or challenges related to data—e.g., to collection, privacy, accessibility, control, concentrated market power, or any other aspect—as it affects affordability, accessibility, and use of more targeted application of fertilizer? For instance, to what extent does the expanded application of targeted site-specific crop management using data from sensors, climate readings, or mechanical systems in agriculture impact competition and farmers' access to fertilizer or other agricultural inputs? Is there evidence of firms with market power using information obtained regarding farmers' farming practices to adversely affect farmers or competitors? Are there ways that USDA or other agencies can safeguard a farmer's control of data and enhance competition and fair access?

13) Please comment on the availability and accessibility of market information and data for fertilizers. Which public or private sources do you rely on to receive information on fertilizer prices and other related markets? Are you able to access timely, accurate, and comprehensive information on spot prices of fertilizers in local, regional, and national markets? If not, how can USDA further facilitate price reporting information and transparency for market participants? Beyond price reporting, what other market related information would be helpful that is currently limited or not accessible?

14) In what other ways can USDA support farmers' ability to adapt to variability in fertilizer costs? How might USDA assist small producers in hedging or otherwise mitigating sudden, unexpected jumps in the spot price of fertilizer? How might USDA better support modes of production that rely less on fertilizer, or support access to markets that may pay a premium for products relying on less fertilizer? How can USDA further facilitate appropriate conservation of land, and/or support farmers' flexibility in starting up and sustaining other farm enterprises?

15) What other tools, investments, or programs could USDA or other agencies deploy to enhance the competitiveness of fertilizer markets? Please suggest any other actionable steps that USDA or other agencies could take to help address any identified concerns.

III. Requirements for Written Comments

The www.regulations.gov website allows users to provide comments by filling in a ''Type Comment'' field or by attaching a document using an ''Upload File'' field. USDA prefers that comments be provided in an attached document. USDA prefers submissions in Microsoft Word (.doc files) or Adobe Acrobat (.pdf files). If the submission is in an application format other than Microsoft Word or Adobe Acrobat, please indicate the name of the application in the ''Type Comment'' field. Please do not attach separate cover letters to electronic submissions; rather, include any information that might appear in a cover letter within the comments. Similarly, to the extent possible, please include any exhibits, annexes, or other attachments in the same file, so that the submission consists of one file instead of multiple files. Comments (both public comments and non-confidential versions of comments containing business confidential information) will be placed in the docket and open to public inspection. Comments may be viewed on www.regulations.gov by entering docket number AMS-AMS-22-0027 in the search field on the home page. All filers should name their files using the name of

the person or entity submitting the comments. Anonymous comments are also accepted. Communications from agencies of the United States Government will not be made available for public inspection. Anyone submitting business confidential information should clearly identify the business confidential portion at the time of submission, file a statement justifying nondisclosure and referring to the specific legal authority claimed, and provide a non-confidential version of the submission. The nonconfidential version of the submission will be placed in the public file on www.regulations.gov. For comments submitted electronically containing business confidential information, the file name of the business confidential version should begin with the characters ''BC.'' Any page containing business confidential information must be clearly marked ''BUSINESS CONFIDENTIAL'' on the top of that page. The non-confidential version must be clearly marked ''PUBLIC.'' The file name of the nonconfidential version should begin with the character ''P.'' The ''BC'' and ''P'' should be followed by the name of the person or entity submitting the comments or rebuttal comments. If a public hearing is held in support of this supply chain assessment, a separate **Federal Register** notice will be published providing the date and information about the hearing.

Melissa R. Bailey,

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Agricultural Marketing Service.

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