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Agricultural Marketing Service
U.S. Department of Agriculture

Docket: AMS-AMS-22-0027

Re: Access to Fertilizer: Competition and Supply Chain Concerns

Thank you for the opportunity to provide comments to address farmers' and ranchers' growing concerns regarding seeds and agricultural inputs. The Organic Trade Association (OTA) is the membership-based business association for organic agriculture and products in North America. OTA is the leading voice for the organic trade in the United States, representing over 9,500 organic businesses across 50 states. Our members include growers, shippers, processors, certifiers, farmers' associations, distributors, importers, exporters, consultants, retailers and others. OTA's mission is to promote and protect organic with a unifying voice that serves and engages its diverse members from farm to marketplace.

Organic is a voluntary regulatory program for farmers and businesses who choose to meet a strict federal standard and market their products under the USDA organic seal. The $63 billion U.S. organic industry is an increasingly important part of American agriculture and represents one of the fastest-growing food and farming sectors in the U.S. and global marketplace.[1] Organic is good for people, good for the planet, and good for business. Organic provides a safe, healthy choice to consumers, who seek out the USDA Organic seal to find trusted food and non-food products for their families. As the original climate-smart agriculture, organic is a key partner to U.S. efforts to mitigate the adverse effects of climate change and expand sustainable farming practices.[2] The organic trade also provides economic opportunities for farmers and communities creating jobs and lifting rural economies.[3]

The questions in USDA's Request for Information are related to competition and market concentration in the fertilizer industry. USDA seeks information on market concentration, prices, mergers, contractual/sales practices, transportation, reliance on foreign supply, sustainability concerns, financing, efficiency, market information and data. OTA's comments are related to fertility inputs used in **USDA-certified organic agriculture**, and most specifically address Questions #9, 11, and 14. These comments build on OTA comments previously submitted in response to competition-related issues in agriculture and supply chain resiliency (listed below).

Please comment on sustainability, climate, and other environmental concerns and risks relating to fertilizer markets. (Question #9)

Organic agriculture is a USDA-certified system of crop and livestock production using cultural, biological, and mechanical practices that foster the cycling of resources while promoting ecological balance, and conserving biodiversity. Organic producers build soil health and crop fertility utilizing a suite of climate-smart and regenerative soil management practices including cover cropping, crop rotation, using organic soil amendments (e.g., manure and compost), and conservation tillage.

Synthetic nitrogen fertilizer is <u>prohibited</u> in organic production. The prohibition of synthetic fossil fuel-based nitrogen fertilizers manufactured through the Haber-Bosch process is a long-standing and fundamental prohibition in organic agriculture. Much of the USDA's Request for Information focuses on challenges that arise in markets for synthetically manufactured conventional fertilizers that rely on petroleum feedstocks. Organic agriculture avoids the challenges associated with synthetic nitrogen fertilizers and delivers a suite of benefits for the environment, human health, and economic viability.

Organic production's contribution to climate change is significantly reduced by completely cutting out fossil fuel-based nitrogen fertilizers and eliminating the energy demanded for their manufacturing. The production, transport and use of fossil fuel-based fertilizers is a significant contributor to greenhouse gas emissions, particularly carbon dioxide. Fuel burned in transportation and energy used during the Haber Bosch process creates ammonia, which is then used as synthetic fertilizer. The manufacture of synthetic nitrogen fertilizer alone comprises as much as 10% of direct global agricultural emissions;[4] a 37% increase since 2001.[5] By eliminating synthetic nitrogen fertilizers, direct global agricultural greenhouse gas emissions could be reduced by about 20%.[6]

Organic production reduces emissions of nitrous oxide by avoiding soil applications of synthetic nitrogen and preventing the creation of new reactive nitrogen. Most nitrogen is found in the air as N2 and cannot be used by plants or other living things; nitrogen in this form does not contribute to climate change. However, when that nitrogen goes through a chemical process called fixation, it becomes reactive. Reactive nitrogen is needed for plant and animal growth, but it also can cause a host of environmental problems, including climate change through its nitrous oxide form. Increasingly, benign unreactive nitrogen is getting transformed into the reactive form – primarily through the creation of synthetic fertilizer. Synthetic fertilizer application on conventional crops, particularly for corn and soybeans, is one of the leading sources of direct greenhouse gas emissions in agriculture. While all farming can release nitrous oxide at some level, synthetic nitrogen applied to soils increases nitrous oxide emissions at the site of the application.[7] Nitrous oxide is an extremely potent greenhouse gas, estimated to have around 300 times more global warming potential than carbon dioxide because of how long it remains in the atmosphere.[8] This source of nitrous oxide emissions accounts for 77.8% of total nitrous oxide emissions in the United States.[9]

Organic farming also slows the growing over-abundance of reactive nitrogen on our planet, such as nitrous oxide, by minimizing the introduction of reactive nitrogen into our global pool through the application of synthetic fertilizer. Instead, the majority of reactive nitrogen comes from recycled sources like compost; a small amount of new reactive nitrogen is also produced from nitrogen-fixing bacteria in the roots of cover crops or other legumes. A 2020 study shows that across all food groups, organic production uses around 50% less new reactive nitrogen as compared with conventional production.[10] Not only does organic add significantly less to the global pool of reactive nitrogen, it also helps cycle potential nitrogen waste pollution back into food production by using manure and food waste as fertilizer.[11]

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? (Question #14)

USDA-certified organic agriculture is the most effective and appropriate vehicle through which USDA can support agricultural production that relies less on fertilizer and also support access to markets that may pay a premium for products relying on less fertilizer. Organic production does not use synthetic nitrogen fertilizers. Instead, organic manages crop fertility using climate-smart and regenerative soil management practices that deliver a suite of environmental and human health benefits. USDA Organic is the only environmental label claim in the United States that legally requires third-party certification from farm to finished product and is backed by a uniform national standard and federal oversight and enforcement. Organic farmers receive a price premium for their organic products[12] and consumers around the globe trust the USDA Organic label to deliver on important environmental attributes[13].

Despite the long-term economic and environmental benefits organic agriculture provides, less than one percent of domestic farmland is certified organic today. **USDA should wisely invest in programs that support farmers in successfully transitioning to, and staying in, organic production.** The following areas of focus should be prioritized (please refer to our previous comment for further details).

- **Technical Assistance:** Lack of organic-specific technical assistance is one the primary barriers to organic transition. There is a large gap in technical assistance investment to meet the needs of organic and transitioning farmers across production systems, scales, and geographic regions. USDA should develop a competitive grant program for organizations that provide regionally adapted programs and services that support farmers transitioning to organic. USDA should also provide required training on organic for USDA staff and work towards staffing an organic specialist in every state/region.

- **Market Development:** To transition more acreage to organic and support farmers in organic transition, USDA must put an equal emphasis on increasing processing capacity and supporting market development opportunities that ensure a healthy organic marketplace. Specific sectors, commodity types, and geographic regions have different needs and must be supported through targeted programs and resources. USDA should invest in organic processing and infrastructure by establishing a competitive grant program for market and infrastructure development to expand organic processing capacity. USDA should also establish a pilot program, working with states, to increase purchases of organic food and reduce barriers to purchasing organic food within feeding programs.

- **Conservation, Crop Insurance, and Certification Cost Share:** Financial, policy, and programmatic improvements are needed to make certified organic production accessible to all farmers who chose to participate in the thriving organic market.
    - Prioritize and increase USDA **conservation program payments** to farmers for organic management practices that build soil health (e.g., cover cropping, crop rotations, using organic soil amendments, and conservation tillage).
    - Expand and adapt **crop insurance and loan program** options to better accommodate organic production systems and premiums, eliminate policies that penalize farms when

transitioning to organic production, and remove all caps on loans and programs for organic producers if similar caps are not in place for conventional producers.
- Restore and expand the **certification cost-share** reimbursement rate and cover 100% of the costs of certification for qualified small- and mid-sized producers and socially disadvantaged farmers. Improve efficiency of dispersing the funds by, for example, distributing funds directly through certifiers. Utilize certification cost-share funds to offset expenses for transitioning operations.
- Provide tax credits to landowners offering **long-term leases**. Organic farmers who operate on leased land need security and the assurance that they can farm on the land long enough to reap the economic and environmental benefits of their soil building practices and agricultural investments.

Are there ways USDA could support more effective use of other fertilizers (e.g.: manure) from livestock? (Question #11)

USDA can support effective use of other fertilizers (e.g., manure) through investments in research and technical assistance in the specific focus areas listed below. Investment in research and technical assistance for organic systems and inputs helps all farmers looking to implement more sustainable production practices – organic and conventional alike. Resources, tools, and other support from USDA must embrace organic agricultural systems and the unique practice standards and restricted inputs that organic farmers must comply with. USDA must not exclude or preclude organic farmers from accessing and utilizing any tools, resources, or other support provided in response to this request for information.

Areas of focus include, but are not limited to:

- Improving **resource efficiency** of manure and other organic-approved fertility inputs with innovations that align with organic principles of fostering physical, chemical, biological systems of soil as the basis of soil and plant fertility. Manure is a critically important fertility input for organic growers delivering essential nutrients and organic matter to build soil health. Organic growers are facing challenges with accessing manure inputs due to rising costs and increased market competition for certain inputs (e.g., chicken pellets). Organic growers are looking for nutrient management solutions that: deliver plant-available nitrogen without overapplying other nutrients or exceeding state-imposed limits on total nitrogen; are efficient to transport between livestock manure sources and crop production areas without undermining the importance of integrating livestock into crop production systems; reduce greenhouse gas emissions and promote nutrient cycling.

- Developing **agricultural technology (AgTech)** tools that are appropriate for organic systems. While there has been a sharp increase in the development of AgTech over the last five years, most of these products and systems are focused on supporting large-scale conventional systems. However, there is an opportunity through AgTech to deliver novel, cost-effective strategies for sustainable production across a diversity of farming systems by allowing for increased production in tandem with reduced reliance on synthetic and labor inputs. These prospects are especially promising for organic farmers, who are limited in the materials they are able to use for

addressing on-farm challenges and must employ additional tracking tools to demonstrate organic regulatory compliance. Organic-focused AgTech would expand the technology sector into this rapidly growing agricultural sector and develop tools to improve sustainable production across farming systems.

- Developing **food safety** tools and risk mitigation strategies that are appropriate for organic systems that use manure and promote biodiversity, and also comply with other third-party food-safety requirements. There are often disparities between third-party food safety regulations and the biodiversity-maintenance strategies employed by organic farmers due to the fallacy that increased on-field faunal biodiversity may increase the risk for introduction of human pathogens. While some research has been conducted disproving this myth, more research, extension, and education are needed to fully understand the impact these discrepancies are having on organic farmers and to elucidate the true relationship between on-farm biodiversity and food safety. Additionally, extension outreach must take place to both organic growers and third-party food safety auditors alike so that evidence-based strategies can be incorporated into their audits.

- Identifying best on-farm practices for improving **yields and profitability**. Different soil building practices do not necessarily have an equitable effect on yields. When considering the adoption of new practices or inputs, it is important for farmers to be able to evaluate which are most likely to promote environmental sustainability and also allow the farmer to maintain (or increase) their bottom line. Unfortunately, most studies do not track the full suite of variables that would be needed for a full profitability comparison, such as input costs. Technical assistance and cost-share opportunities are also needed to help farms afford and implement best practices on their operations.

References to previous comments submitted by the Organic Trade Association

OTA has previously submitted comments in response to Executive Orders related to supply chains and competition. Please refer to these comments for additional details.

- OTA Comments on America's Supply Chains, June 2021
- OTA Comments Meat and Poultry Processing Infrastructure, August 2021
- OTA Comments on Competition in Seeds and other Agricultural Inputs, June 2022
- OTA Comments on Competition in Food Retail and Distribution, June 2022

Thank you for the opportunity to comment and for USDA's support of organic agriculture.

Sincerely,

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CEO, Organic Trade Association

[1] The Organic Trade Association. 2022 Organic Industry Survey
[2] The Organic Trade Association. 2020. Advancing Organic to Mitigate Climate Change
[3] Jaenicke, Edward C. 2016. U.S. Organic Hotspots and Their Benefit to Local Economies
[4] Scialabba, N.E., and Muller-Lindenlauf. 2010. "Organic Agriculture and Climate Change." Renewable Agriculture and Food Systems; Cambridge 25: 158.
[5] Camargo, G.G., M.R. Ryan, and T.L. Richard. 2013. "Energy Use and Greenhouse Gas Emissions from Crop Production Using the Farm Energy Analysis Tool." BioScience 63: 263–73.
[6] Scialabba, N.E., and Muller-Lindenlauf. 2010. "Organic Agriculture and Climate Change." Renewable Agriculture and Food Systems; Cambridge 25: 158.
[7] EPA. 2019. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018. Reports and Assessments. (September 10, 2019).
[8] Solomon, S., et al. 2007. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC. Cambridge, United Kingdom: Intergovernmental Panel on Climate Change.
[9] EPA. 2019. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990- 2018. Reports and Assessments. (September 10, 2019).
[10] Shade, Jessica et al. 2020. "Decreasing Reactive Nitrogen Losses in Organic Agricultural Systems." Organic Agriculture. https://doi.org/10.1007/s13165-020-00297-0 (July 14, 2020).
[11] Shade, Jessica et al. 2020. "Decreasing Reactive Nitrogen Losses in Organic Agricultural Systems." Organic Agriculture. https://doi.org/10.1007/s13165-020-00297-0 (July 14, 2020).
[12] Crowder, D. and J. Reganold. 2015. Financial competitiveness of organic agriculture on a global scale. *Proceedings of the National Academy of Sciences.* 112 (24) 7611-7616.
[13] Edelman Trust Survey, 2021.