



June 15, 2021

Dr. Melissa R. Bailey
Agricultural Marketing Service

Submitted via www.regulations.gov

Dear Dr. Bailey:

On behalf of the Plant Based Foods Association (PBFA), I am writing to offer comments on President Biden's Executive Order on America's Supply Chains. The Plant Based Foods Association is the only trade association in the U.S. representing over 200 of the nation's leading plant-based food companies. PBFA's mission is to build a strong foundation for the industry to scale and thrive. PBFA empowers the industry by advocating for government policies that allow fair competition, while expanding market opportunities for retail, distribution, and foodservice to support the continued growth of the plant-based foods industry.

We appreciate USDA's attention to supply chain issues, especially those that came to light during the pandemic. Our members experienced disruptions in receiving imported ingredients from several countries around the world. This experience, along with watching farmers contend with crops that they couldn't harvest or find markets for, cemented for us the urgent need to build resilient domestic supply chains that connect plant-based foods manufacturers with American farmers. We are already embarking on this work and strongly support focus and assistance from USDA to create these new market opportunities.

Additionally, the plant-based transformation of the food system is vital to environmental sustainability and to all Americans. Analysis from the international policy institute Chatham House concluded this year that in order to sustain human populations "... global dietary patterns need to converge around diets based more on plants, owing to the disproportionate impact of animal farming on biodiversity, land use and the environment. Such a shift would also benefit the dietary health of populations around the world and help reduce the risk of pandemics."¹

PBFA's comments will focus on three issues: new market opportunities and transforming the food system, supporting the needs of socially disadvantaged and small to mid-sized producers and processors, and climate.

Creating New Market Opportunities for U.S. Farmers and Transforming the Food System

The plant-based foods industry has taken off. Consider these figures from recently released retail data:

¹ Tim Benton et al., *Food System Impacts on Biodiversity Loss*, Chatham House (2021), available at <https://www.chathamhouse.org/2021/02/food-system-impacts-biodiversity-loss>



- U.S. retail sales of plant-based foods continued to increase by double digits in 2020, growing 27% and bringing the total plant-based market value to \$7 billion. This growth was consistent across the nation, with more than 25% growth in every U.S. census region. The plant-based food market grew almost twice as fast as the total U.S. retail food market.
- Interest in the sector was already surging, driven by a focus among consumers on personal health, sustainability, food safety, and animal welfare. These factors will continue to propel consumption of plant-based foods far into the future. According to Mintel, 35% of U.S. consumers agree with the statement “the Covid-19/coronavirus pandemic proves that humans need to eat fewer animals.”²

The rapid and sustainable growth of the plant-based foods industry presents an immediate opportunity for U.S. farmers to transition to growing crops for plant-based foods. At present, it is difficult to procure domestic supplies of widely-used plant-based ingredients made, for example, from dry peas, chickpeas, oats and wheat (for wheat gluten) that meet the price, quality, and volume needs of plant-based food manufacturers. The majority of oats used in plant-based dairy alternatives are imported from Canada and Scandinavia. While many northern U.S. farmers grow oats, they use them mostly for forage or as a cover crop. Demand for dried peas, which have primarily been used in plant-based meat alternatives, has also been soaring. Beyond Meat’s principal source of protein, for example, is from yellow peas; dried peas are also increasingly being incorporated into beverages. Plant-based eggs are being made from mung beans, a crop that was grown in the United States and sprouted for the bean sprout market more than a decade ago, but is now grown by only a few U.S. farmers.

The plant-based foods industry is in the early stages of becoming a significant sector of the food industry.

“What is the size of the plant-based opportunity for American agriculture?”

To answer that question, PBFA worked with agricultural economists at the University of Illinois to develop a methodology to estimate farm-level demand, expressed in acres, based on the value of retail sales of selected plant-based food products. **Our research concluded that in the near future, plant-based ingredients will provide a meaningful market opportunity for U.S. farmers.** This demand is spread across U.S. cropland, with new opportunities to grow oats and pulse crops in the Northern Plains and Midwest and crops like brown rice and mung beans in the South and West.

Our forthcoming report provides a methodology to project acreage needs for the plant-based foods industry. Oat milk, for example, is a fast-growing product and now the second-leading plant-based milk (after almond). Oat milk was very recently introduced in the United States, and meeting today’s demand requires only 9,385 acres of oats. However, when oat milk achieves 20% market share, 96,729 acres of food grade oats will be needed to satisfy demand from the oat milk market.

² Plant Based Foods Ass’n, *2020 Retail Sales Data Announcement* (April 6, 2021), <https://www.plantbasedfoods.org/2020-retail-sales-data-announcement/>.



PBFA estimates that 20,444 U.S. wheat acres were needed to meet retail demand for wheat gluten-based meat alternatives in 2020, and 56,504 dry peas acres were required to fulfill 2020 retail demand for pea protein-based meat alternatives. With the plant-based meat market valued at \$4.3 billion in 2020 and projected to reach \$8.3 billion by 2025,³ acreage for these crops will need to expand accordingly.

While the market is clearly demanding plant-based ingredients, the challenge and opportunity for USDA is to ensure those ingredients are grown by U.S. farmers. The levers to do so are well-known: more research for crops such as dry peas, oats, mung beans, and wheat to improve varieties and yields for food uses; rebuilding processing capacity; and increased efforts to connect food manufacturers and farmers.

Supporting the Needs of Socially Disadvantaged and Small to Mid-Sized Producers and Processors

USDA rightly identifies that supply chain issues are more problematic for smaller companies. While the pandemic showed that larger companies also faced disrupted supply chains, challenges for smaller companies and those operated by socially disadvantaged operators were amplified.

The story of my company, Upton's Naturals, is illustrative: Upton's Naturals is an independently owned, mid-sized natural foods company with a focus on meat alternatives based in Chicago. In our startup phase, we purchased wheat gluten from one of the very few U.S. manufacturers of this protein ingredient. As the company grew and the volume of wheat gluten required grew accordingly, the U.S.-based producer could not supply the volumes we needed at prices competitive with overseas suppliers. Competitive pressures forced us to buy wheat gluten from an Australian company which could meet our specifications and pricing targets. There are many complex reasons why U.S.-produced wheat gluten is not competitive, including the lack of a robust secondary market for the four pounds of wheat starch byproduct from each pound of wheat gluten produced.

The pandemic created a price spike for one very common ingredient in plant-based foods: pea protein. China is a major manufacturer of pea protein isolate, and the container shipping crisis that occurred early in the pandemic contributed to pea protein isolate costs increasing from about \$3.40/kg to more than \$5.00/kg. At that time, container freight rates had increased from \$2,000 per container to well over \$10,000 per container.⁴

Addressing these and other structural barriers in the U.S. supply chain should be a priority for USDA.

³ MarketsandMarkets, *Plant-based Meat Market by Source (Soy, Wheat, Pea, & Other Sources), Product (Burger Patties, Strips & Nuggets, Sausages, Meatballs, & Other Products), Type (Beef, Chicken, Pork, Fish, & Other Types), Process, and Region - Global Forecast to 2025 (2021)*, available at <https://www.marketsandmarkets.com/Market-Reports/plant-based-meat-market-44922705.html>

⁴ Mintec Global, www.mintecglobal.com.



Climate Benefits

Of course, all efforts to transform the food system and move American diets toward plant-based foods have enormous positive impacts on climate change. The National Academy of Sciences is clear about the potential that plant-based diets have to affect climate change, concluding in a 2018 report that “shifting to plant-based diets confers substantial environmental savings, comparable to or even surpassing projected improvements in agricultural productivity.”⁵

And all benefits to the environment are benefits for human health. Earlier this month, the National Academy of Sciences quantified the human cost of livestock production, finding that 80% of the 15,900 annual deaths that result from food-related fine particulate matter (PM_{2.5}) pollution are attributable to animal-based foods.⁶ The same study found that if Americans ate at least half their calories from fruits and vegetables and limited animal protein to just a few meals per week, air-pollution mortality from agriculture would fall 68 %. Plant-based diets are a winning combination for the environment, as well as for human health.

Finally, a vision for a world where a significant portion of diets are plant-based is one where less land will be needed for animal production and growing plants to feed animals, and more land can be devoted to restoring the habitat we need to stop the warming of the planet. Plant-based foods are key to climate change. For example, just one acre of farmland is required to produce 4,087 gallons of oat milk (given an oats groats yield of 1,758 lbs. per acre). USDA policies that move toward plant-based diets are key to achieving President Biden’s goal of protecting 30% of land and water by 2030.

In summary, plant-based foods represent a fast-growing opportunity for U.S. farmers to grow for new domestic markets and corresponding opportunities to support smaller companies, while making essential improvements to the environment. Thank you for considering our views.

Sincerely,

A handwritten signature in black ink, appearing to read "Nicole Sopko", with a long horizontal flourish extending to the right.

Nicole Sopko
Board President
Vice President, Upton’s Naturals

⁵ Alon Shepon et al., *The Opportunity Cost of Animal Based Diets Exceeds All Food Losses*, 115 (15) PNAS 3804-3809 (April 10, 2018), available at <https://www.pnas.org/content/115/15/3804>

⁶ Nina G. G. Domingo et al., *Air Quality–Related Health Damages of Food*, 118 (20) PNAS e2013637118 (May 18, 2021), available at <https://doi.org/10.1073/pnas.2013637118>