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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

CENTER FOR FOOD SAFETY, *et al.*,

Plaintiffs,

v.

SONNY PERDUE, *et al.*,

Defendants.

Case No. 3:20-cv-1537-RS

Brief of *Amici Curiae* in Support of Defendants' Combined Opposition and Cross-Motion for Summary Judgment

Date: January 21, 2021
Courtroom: 3 – 17th Floor
Hon. Richard Seeborg

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Interest of *Amici Curiae*

The Coalition for Sustainable Organics ("CSO"), Aquaponics Association ("AA"), Western Growers Association ("Western Growers") and The Scotts Company, LLC ("Scotts") (collectively, "*Amici*") submit this brief to aid the Court in its consideration of whether growers who use hydroponic growing methods should continue to be eligible for organic certification under the National Organic Program ("NOP") administered by the United States Department of Agriculture ("USDA" or the "Agency"). *Amici* are three not-for-profit agricultural trade associations and a major supplier of conventional and organic hydroponic materials who either directly or have members who would suffer material and substantial harm should Plaintiffs succeed on their motion.

The Coalition for Sustainable Organics ("CSO") is a group of environmentally and socially responsible growers committed to maintaining the current high standards of the USDA for certifying organic produce. CSO is comprised of approximately 50 large and small growers alike. Through public education, lobbying, and other efforts, CSO advocates for the continued allowance of containerized growing methods under the NOP, while enabling growers to select the most appropriate production system for their specific site and commodity needs. CSO has provided oral and written testimony and submitted docket comments in connection with USDA's administrative processes relating to whether hydroponic growers are eligible for organic certification under the NOP.

AA's mission is to promote the benefits of aquaponic agricultural growing through education and outreach, representing approximately 200 such members. It aims to educate both consumers and food safety officials about the safety of aquaponically-grown food. Like CSO, AA has also participated in USDA's administrative processes relevant to the issue of organic certification of hydroponic growers, providing oral and written testimony at National Organic Standards Board ("NOSB") meetings and comments to relevant USDA dockets.

Founded in 1926, Western Growers represents local and regional family farmers in Arizona, California, Colorado, and New Mexico. Its members grow, pack, and ship over half of the nation's fresh produce including nearly one-third of America's fresh organic produce. Western Growers is a leading public policy advocate for the fresh produce industry and has a longstanding interest in

environmental matters, in general, and matters impacting organic production in particular.

Finally, Scotts, founded in 1868, is one of the world's leading suppliers of consumer lawn and garden products. In addition to Scotts' traditional lawn and garden business, it is represented in the hydroponic market by its affiliate The Hawthorne Gardening Company. Hawthorne Hydroponics LLC supplies growing media, liquid nutrients and lighting to hydroponic growers through its brands including General Hydroponics, Gavita and Botanicare. On multiple occasions, Scotts has supplied written and oral comment to the NOSB with respect to the certification process for hydroponic organic growers through the NOP.

Amici all have a particular interest in the determination of the issues in this case. Plaintiffs seek a judicial declaration invalidating USDA's June 6, 2019 denial of Plaintiffs' petition requesting that the agency conduct rulemaking to exclude organic certification of hydroponic agricultural production systems under the Organic Foods Production Act. Plaintiffs seek a judicial determination that USDA's denial was arbitrary and capricious, and contrary to law, in violation of the Administrative Procedure Act. Relying upon their extensive experience in the industry, *Amici* file this brief to explain the hydroponic agricultural and certification processes at issue, to elucidate some of the factual and legal errors contained in Plaintiffs' motion, and to provide information about the harm that growers, retailers, and consumers would suffer should Plaintiffs prevail.[1]

Introduction and Summary of Argument

For centuries, humans have developed and improved agricultural technologies. Today, new innovations allow farmers to grow and produce food more efficiently, safely, and sustainably than ever before. This litigation concerns one such innovation – hydroponics – an agricultural production method that allows farmers to produce nutritious fruits and vegetables in a manner that is environmentally beneficial and meets the sustainability goals of the Organic Foods Production Act ("OFPA").[2] Since the advent of USDA's NOP, hydroponic methods have consistently been

[1] No counsel for a party authored this brief in whole or in part, and no person other than *Amici* and their counsel made a monetary contribution to its preparation or submission.

[2] As discussed in greater detail herein, "hydroponic" agriculture is a broad term that includes any method of growing plants without soil. Many farmers also employ "aquaponics" (growing crops

recognized as eligible for organic certification so long as a hydroponic farmer's operation meets the NOP requirements for "organic production," *i.e.*, "[a] production system that is managed in accordance with the Act and regulations in this part to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity."[3] Granting the relief Plaintiffs seek in this lawsuit would prevent hydroponic farmers – like the members of *Amici* CSO, AA and Western Growers and customers of Scotts – who have met those requirements from continuing to produce and sell produce under the USDA's "organic" label.

Through this litigation, Plaintiffs challenge USDA's authority to permit the certification of hydroponically-grown fruits and vegetables as "organic" – a decades-long practice that has coincided with the dramatic expansion of hydroponic agriculture. After the National Organic Standards Board in 2017 rejected a proposal to categorically preclude organic certification for all hydroponic growers, Plaintiffs filed a petition with USDA requesting that USDA undertake a rulemaking seeking the same result. USDA denied the petition, citing its longstanding position under its OFPA authority to permit organic hydroponic production; Plaintiffs sued and have now moved for summary judgment, arguing that USDA's denial of their administrative petition was arbitrary and capricious in violation of the Administrative Procedure Act.[4] But Plaintiffs' motion paints an incomplete and deeply misleading picture of the goals of the OFPA, the organic certification process, the compatibility of hydroponic production with the OFPA and NOP, and the harm to growers and consumers that will follow from an adverse ruling for USDA in this case. In Plaintiffs' telling, the primary goal of the OFPA is to benefit soil, and the certification process for hydroponics is untethered from both the OFPA's legislative standards and basic biology. Hydroponically-grown fruits and vegetables, in Plaintiffs' view, are inherently inappropriate for the "organic" label – even if capable of "integrating cultural, biological, and mechanical practices

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with fish in closed water ecosystems) and "aeroponics" (growing crops in a hanging fashion, often in greenhouses). For brevity, the term "hydroponics" is used inclusively to describe all of these non-soil-based agricultural methods.

[3] 7 C.F.R. § 205.2.

[4] Administrative Record ("AR") 1375–76.

that foster cycling of resources, promote ecological balance, and conserve biodiversity" – because they are not physically grown in the ground. Accordingly, Plaintiffs contend that USDA should prohibit hydroponic farmers from being certified "organic" and from labeling their produce as "organic" when sold to consumers.

The reality is that hydroponically-grown produce has been a growing part of the American agricultural landscape for 30 years, and has been part of the NOP since its inception. Hydroponic production is a broad term often used to describe several methods of agricultural growth outside of the soil – for example, using indoor or outdoor containers, biologically active waters, and/or indoor greenhouses. One segment of hydroponic production is referred to as "inert" or "sterile" and is made up of inorganic systems in which plants are fed nutrients in their basic ionic forms (*e.g.*, nitrate, potassium, iron) that can immediately be taken up through their roots. "Sterile" hydroponic systems do not rely on biological organisms to make minerals available to the plants.[5] Another segment, and the one at issue here, is for "organic" hydroponic systems, also referred to as "bioponic" systems, which rely instead on a "soil food web micro-biological ecosystem to provide nutrients to a crop. All inputs come from animal, plants and minerals and require biology to convert these raw inputs into plant-usable form."[6] CSO's members, for example, operate organic hydroponic systems for which the members have either obtained organic certification or hope to obtain certification in the future.

Organic hydroponic growers employ all sorts of site-specific production methods depending on their particular geographies and crops, some of which are detailed herein. Common among them, however, is their ability to establish biological activity in the roots of plants to enable the breakdown of organic matter into plant-available nutrients. Numerous studies demonstrate that organic hydroponic growers are able to establish the same quantity and diversity of microbiology – a fundamental component of organic agriculture – found in in-soil production methods.[7] This activity readily enables organic hydroponic growers to meet the standard for organic production

[5] AR 0437-0632.
[6] *Id.* at 0565.
[7] *Id.* at 0609, 0626.

under the NOP.

Consumers are increasingly demanding organic produce, and are willing to pay a premium for produce bearing that label.[8] For this reason, organic farming has become one of the fastest growing agricultural sectors in the United States.[9] And throughout the life of the NOP, hydroponically-grown produce has been eligible to attain organic certification so long as the operation is able to meet the rigorous certification standards that are generally required of organic growers. In recognition of that burgeoning consumer market, many of CSO, AA, and Western Grower's members and other growers have invested heavily in hydroponics to earn that "organic" label, and consumers have come to rely on the availability of hydroponically-produced organic produce.[10]

In Plaintiffs' view, the "organic" designation should apply to a far more restricted universe of produce – that which is literally grown in the Earth's soil. For three reasons, Plaintiffs are incorrect. First, as a legal matter, the OFPA and NOP establish broad standards for organic production based on site-specific analyses by Certifying Agents of farm-specific Organic System Plans. Plaintiffs' categorical approach is ill-suited to Congress's design. Second, hydroponic

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[8] *See* Mary Ellen Shoup, *Packaged Facts: Gen Z shoppers emerge as strong consumers of organic and natural foods*, FOOD NAVIGATOR, Jan. 8, 2020, https://www.foodnavigator-usa.com/Article/2020/01/08/Packaged-Facts-Gen-Z-emerges-as-strong-consumer-of-organic-and-natural-foods (in a survey of over 20,000 American adults, millennial and Gen-Z consumers were more likely to purchase "organic" food). As a general matter, *Amici* rely upon transcripts and reports contained in the Administrative Record. On occasion, however, *Amici* cite to academic articles or news articles related to organics or the organic agricultural industry. Courts will often consider social scientific, scientific, or industry information outside of the contours of the record when presented by *amici* briefs. *See, e.g., Grutter v. Bollinger*, 539 U.S. 306, 330 (2003) (considering *amici*'s social science evidence regarding benefits of diversity in higher education); *Disability Rights Montana, Inc. v. Batista*, 930 F.3d 1090, 1099 (9th Cir. 2019) (considering *amici*'s medical and social science researcher on solitary confinement); *Trout Unlimited v. Lohn*, 559 F.3d 946, 947 (9th Cir. 2009) (considering *amici*'s view of the scientific consensus regarding the ways in which the National Marine Fisheries Service categorizes certain species of fish); *see also* Fed. R. Evid. 201 (noting that courts may take judicial notice of facts outside the record).

[9] Karen Campion, *A Tough Row to Hoe: What Partlo v. Johanns Means for the Organic Food Industry*, 21 J. NAT. RES. & ENV'T L. 121, 121 (2007) (describing growth of organic farming since the enactment of the OFPA in 1990).

[10] Agricultural products that meet the organic standard can be sold as "USDA Organic" with the formal seal of the Agency. *See* USDA, *What's Behind the Organic Seal? Organic Labels Explained*, USDA.GOV, https://www.ams.usda.gov/publications/content/whats-behind-organic-seal-organic-labels-explained (May 24 2018).

growers, by establishing and fostering a soil food web with an active microbiome, are readily able to meet the OFPA and NOP standards. Third, Plaintiffs tellingly ignore the significant consequences that their restrictive certification scheme would have on both the agricultural industry that has invested in organic hydroponic production and on its consumers, who are demanding an ever-increasing supply of organic produce at a fair price.

Ultimately, Plaintiffs' position is untenable. They wish to restrict the valuable "organic" label for one category of organic farmers, to the detriment of growers utilizing the types of sustainable practices that Congress intended to encourage. *Amici* respectfully request that Plaintiffs' motion for summary judgment be denied, and that Defendants' cross-motion for summary judgment be granted.

Argument

I. The Legal Framework of the Organic Foods Production Act Establishes Broad Standards for Organic Certification.

Under the OFPA, Congress set out the broad standards under which hydroponic farmers who meet USDA's requirements are entitled to obtain organic certification based on a site-specific certification process. Plaintiffs' arguments to the contrary are unsupported by the statute, its legislative history, and USDA's NOP regulations.

A. The Framework of the Organic Foods Production Act

Enacted in 1990, the Organic Foods Production Act ("OFPA"), 7 U.S.C. §§ 6501-6524, directed USDA to "establish an organic certification program for producers and handlers of agricultural products that have been produced using organic methods[.]"[11] As noted in Senate Agriculture, Nutrition, and Forestry Committee Report that accompanied the bill, the OFPA became law at a time when "[t]he market for organically produced food is growing as consumers begin to search for local food alternatives." Congress was concerned that "[*g*]*rowth* in the organic food trade" was "hampered by a lack of consistent standards for production," prompting Congress

[11] 7 U.S.C. § 6503(a).

to establish "national standards for organic production."[12] Indeed, *growth* of the organic program was front and center at the time Congress considered the OFPA.

With the passage of the OFPA, "organic foods gained a certain status" because only food produced and handled in certain ways "could rightfully call itself 'organic.'"[13] Prior to OFPA, the standards for organic certification were product-oriented, focusing on "observable characteristics" and ingredient composition of produce.[14] But the OFPA shifted the standards to a process-oriented approach, focusing on the practices that a specific farmer uses to grow the produce on a specific site. The regulatory framework of the OFPA therefore centers on the ways in which individual growers grow, harvest, and prepare produce.

The OFPA directed USDA to create a program for certifying produce as "organic," including the creation of a "USDA Organic" seal to be used on labels to demonstrate to consumers that a product is grown in a manner that complies with the NOP.[15] Under the statute, any agricultural products sold as "organic" must be "produced only on certified organic farms and handled only through certified organic handling operations in accordance with [the OFPA][.]"[16] The OFPA further "require[s] each certified organic farm or each certified organic handling operation to certify compliance annually[17] and submit to an "annual on-site inspection by the

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[12] S. Rep. 101-357, at 289 (1990), *as reprinted in* 1990 U.S.C.C.A.N. 4656, 4943 (emphasis added).

[13] Karen Campion, 21 J. NAT. RES. & ENV'T L. at 122.

[14] Josh Dhyani, *Science-Based Food Labels: Improving Regulations & Preventing Consumer Deception Through Limited Information Disclosure Requirements*, 26 ALB. L.J. SCI. & TECH. 1, 18-19 (2016).

[15] The OFPA also established the National Organic Standards Board ("NOSB"). The NOSB's mission is "to assist in the development of standards for substances to be used in organic production and to advise the Secretary on any other aspects of the implementation of this chapter." 7 U.S.C. § 6518(a). The group includes 15 members, who are required by statute to include members with relevant expertise, including individuals who own or operate organic farms or handling operations, as well as those with experience in retail, environmental protection, ecology, and other related areas. The USDA is required to "consult" with the NOSB (7 U.S.C. § 6503(c)), but its recommendations are not binding. Members serve for five-year terms without compensation. 7 U.S.C. § 6518(b), (d) (outlining NOSB's composition).

[16] 7 U.S.C. §§ 6505(a); 6506(a)(1)(A).

[17] 7 U.S.C. § 6506(a)(4).

certifying agent[.]"[18] To qualify as an "organically produced agricultural product," the produce shall:

> (1) have been produced and handled without the use of synthetic chemicals, except as otherwise provided [herein];
> (2) except as otherwise provided [herein] and excluding livestock, not be produced on land to which any prohibited substances, including synthetic chemicals, have been applied during the 3 years immediately preceding the harvest of the agricultural products; and
> (3) be produced and handled in compliance with an organic plan agreed to by the producer and handler of such product and the certifying agent.[19]

B. Overview of the Certification Process

Through the OFPA, Congress established broad, nationally uniform standards for organics certification – standards that are implemented under the NOP by USDA's Agricultural Marketing Service. The NOP Regulations, codified at 7 C.F.R. § 205.200 *et seq*. (the "Regulations"), provide the regulatory framework for organic certification. Any grower "intending to sell, label, or represent agricultural products as '100 percent organic,' 'organic,' or 'made with organic (specified ingredients or food group(s))'" must comply with the applicable provisions of [these Regulations].[20]

Organic standards are verified and enforced through USDA-accredited certifiers, referred to as "Certifying Agents." Any grower wishing to label foods as "organic" must obtain organic certification – the process of inspecting farming and handling operations to make certain that the OFPA and NOP's requirements for organic production are met. Certifying Agents are typically private, third-party non-governmental entities or individuals accredited by USDA to serve in that role "for the purpose of certifying a farm or handling operation as a certified organic farm or handling operation."[21] Certifiers must apply to be accredited and have experience in organic

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[18] 7 U.S.C. § 6506(a)(5).
[19] 7 U.S.C. § 6504; *see also* 7 U.S.C. § 6508(b)(1), (c)(1) (providing that certified farms are prohibited from certain activities like using "any fertilizers containing synthetic ingredients or any commercially blended fertilizers containing materials prohibited under this chapter" or "natural poisons such as arsenic or lead salts that have long-term effects [on] the environment . . . .").
[20] 7 C.F.R. § 205.201.
[21] 7 U.S.C. § 6514(a).

farming and handling techniques.[22] Importantly, Certifying Agents and individual certifiers do not always certify every type of operation. Rather, Certifying Agents and certifiers often specialize in certain produce or operations of which they have the deepest knowledge. In this way, the certification process, Organic System Plan, and inspections are not "cookie cutter" but rather tailored to the specific conditions of the farm. Certifying Agents[23] and their inspectors, auditors, and certifiers conduct regular audits, issue notices of noncompliance, and review corrective action reports as growers work to come into compliance.[24]

Growers seeking to sell their produce with the "USDA Organic" label must follow a detailed and intensive process to achieve certification.[25] Individual growers complete a roughly nine-month application and review process, including working with an accredited Certifying Agent and individual certifier (who generally works for that Certifying Agent as an employee or contractor) who carefully reviews the farm's proposed organic plan.[26] Specifically, any such producer "must develop an organic production or handling system plan that is agreed to by the producer or handler

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[22] Pursuant to 7 U.S.C. § 6514(b), prospective Certifying Agents must "(1) prepare and submit to the [USDA], an application for such accreditation; (2) have sufficient expertise in organic farming and handling techniques as determined by the [USDA]; and (3) comply with the requirements of this section and section 6515 of this title." Section 6515, in turn, outlines additional basic requirements. For example, any Certifying Agent "shall employ a sufficient number of inspectors to implement the applicable organic certification program[.]" 7 U.S.C. § 6515(b). The statute includes a robust conflicts of interest policy; Certifying Agents are prohibited from inspecting any operations in which that agent "has, or has had, a commercial interest, including the provision of consultancy services" and may not "accept payment, gifts, or favors of any kind from the business inspected" nor may agents "provide advice concerning organic practices or techniques for a fee, other than fees established under [the statute]." 7 U.S.C. § 6515(g). Certifying Agents who fail to adhere to the provisions of the OFPA are subject to suspension. 7 U.S.C. § 6515(i).

[23] USDA, AMS/NOP/NOSB New Member Training Agenda, at 6, https://www.ams.usda.gov/sites/default/files/media/NOSB%20New%20Member%20Training_2016.pdf.

[24] *Id*. at 22. Often, "certifiers" and "certifying agents" are used synonymously, but generally, "Certifying Agents" refer to entities that employ individual "certifiers" to inspect and audit farming operations (whether as independent contracts or employees). The Certifying Agents receive their certification from NOP, and the individual certifiers receive their certification from their Certifying Agent.

[25] USDA, Instruction-Accreditation Policies & Procedures, at 4, https://www.ams.usda.gov/sites/default/files/media/2000.pdf.

[26] 7 C.F.R. § 205.201.

and an accredited certifying agent."[27] This comprehensive document addresses how the applicant will implement the Regulations, including all aspects of the operation such as growing, harvesting, storing, transportation, and recordkeeping. It must, *inter alia*, describe the grower's procedures, list all substances it will use in production, describe monitoring practices, and keep careful records.[28] The applicant must also address how it will prevent comingling of nonorganic products or contact with prohibited chemicals and substances.[29] The details of the plan are critical; indeed, USDA calls it "the cornerstone of any application for certification."[30] The OFPA also "require[s] [that] each certified organic farm or each certified organic handling operation to certify compliance annually[31] and submit to an "annual on-site inspection by the certifying agent[.]"[32]

Individual farms, as well as handlers and processors, that successfully clear this process are known as "Certified Organic Operations." These are the entities producing and handling crops that have been approved by the individual Certifying Agents as meeting the necessary qualifications under the Regulations. According to the results of USDA's 2019 Organic Survey, whose results USDA released on October 22, 2020, there were 16,585 USDA certified organic farms around the country.[33] Dozens of growers within this group, including *Amici*'s members, produce some or all of their products using hydroponic production practices at various stages of their products' life cycle.[34]

Plaintiffs correctly (though selectively) cite provisions of the Regulations that relate to soil management to make their case that the Regulations are *only* intended to include soil-based produce. For example, organic growers are required to "manage crop nutrients and soil fertility

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[27] *Id.*
[28] 7 C.F.R. § 205.201(a)(5), (6).
[29] USDA, Organic 101: Five Steps to Organic Certification (2017), https://www.usda.gov/media/blog/2012/10/10/organic-101-five-steps-organic-certification.
[30] USDA, Organic System Plan Template (2015), https://www.ams.usda.gov/reports/organic-system-plan-template.
[31] 7 U.S.C. § 6506(a)(4).
[32] 7 U.S.C. § 6506(a)(5).
[33] USDA, Executive Briefing, 2019 Organic Survey Data Release, at 8 (Oct. 22, 2020), https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/pdf/2019_Organic_Executive_Briefing.pdf.
[34] AR 0596 ; *see also* Section II, *infra.*

through rotations"[35] and generally "implement a crop rotation including but not limited to sod, cover crops, green manure crops, and catch crops that . . . are applicable to the operation[.]"[36] Critically, however, nowhere do the Regulations declare that fruits and vegetables must be physically grown in the soil to qualify for "organic" certification – nor does anything in the OFPA mandate that USDA implement such a requirement. Rather, the Regulations broadly define organic production as any system that "respond[s] to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity."[37] Moreover, the OFPA provides that if a production practice is not prohibited or otherwise restricted by the OFPA, that "practice [will] be permitted unless it is determined that such practice would be inconsistent with the applicable organic certification program."[38] As set forth in more detail in USDA's opposition and cross-motion for summary judgment, USDA's approach to permitting certification of organic hydroponic operations is squarely within its authority under the OFPA.[39]

II. Hydroponic Production is Compatible with National Organic Program Standards to Foster Ecological Balance and Recycling of Resources.

Plaintiffs' position – that hydroponic growers using innovative and sustainable growing techniques are categorically unable to meet the NOP's requirements – flies in the face of the program's site-specific approach to organic certification. The determination of whether a particular operation satisfies the NOP's standards must be made individually, not categorically. To qualify, hydroponic growers *must* meet the OFPA's baseline statutory requirements. Namely, that means that the farm must produce its crops "without the use of synthetic chemicals, except as otherwise provided [in the OFPA]"; it cannot produce crops on land that has been exposed to "any prohibited substances . . . during the 3 years immediately preceding the harvest of the agricultural products"; and must produce their crops "in compliance with an organic plan agreed to by the producer and

[35] 7 C.F.R. § 205.203(b).
[36] 7 C.F.R. § 205.205.
[37] 7 C.F.R. § 205.2.
[38] 7 U.S.C. § 6512.
[39] Dkt. 23 at 9-16.

handler of such product and the certifying agent[.]"[40] Plaintiffs also ignore the important fact that not all hydroponic operations are organic, nor are they always able to meet organic requirements. If the plan fails to meet these and any other applicable criteria, the Certifying Agent will not and cannot issue "organic" certification. Like all certified organic farms, organic hydroponic farms are subject to routine internal and external audits, and a regular process for recertification, ensuring that standards continue to be met following the initial certification.[41]

Plaintiffs' categorical approach fails to acknowledge the extraordinary diversity of production practices USDA's dynamic certification process is designed to accommodate and encourage. Hydroponic farms can exist in both urban and rural environments, given that they often lend themselves to smaller footprints.[42] Farmers engaging in hydroponic agriculture can often grow using fewer crop inputs and less water than required in many traditional farming environments[43], and make more efficient use of land and other natural resources. Some organic growers use both hydroponic and soil-based farming within the same Organic System Plan. And all organic growers are required to demonstrate that their plans "foster cycling of resources, promote ecological balance, and conserve biodiversity."[44]

Organic hydroponic operations are able to meet these requirements by relying on a soil food web that mirrors that of in-soil crop production, *i.e.*, establishing within the hydroponic system a combination of NOP-compliant organic inputs, derived from animals, plants and minerals, and a microbial community within the plant's growing environment capable of relying on biology to break down the organic material into nutrients in a form that the plants can accept. Organic hydroponic growers introduce microbes using the same compost, compost-tea (*i.e.*, "a water extract

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[40] 7 U.S.C. § 6504; *see also* 7 U.S.C. § 6508.

[41] USDA, AMS/NOP/NOSB New Member Training Agenda, at 22, https://www.ams.usda.gov/sites/default/files/media/NOSB%20New%20Member%20Training_2016.pdf.

[42] AR 0596.

[43] Dan Nosowitz, "National Organic Standards Board Decrees That Hydroponic Can Be Organic," MODERN FARMER, Nov. 2, 2017, https://modernfarmer.com/2017/11/national-organic-standards-board-decrees-hydroponic-can-organic/.

[44] 7 C.F.R. § 205.2.

of compost produced to transfer microbial biomass, fine particulate organic matter, and soluble chemical components into an aqueous phase, intending to maintain or increase the living, beneficial microorganisms extracted from the compost")[45], liquid nutrient products, or commercially-available microbe consortium products as are used by field growers. As USDA's Task Force noted, "[b]ioponic systems use the same organic inputs, processes, and principles as field growers."[46] Scientific research, and USDA's own Task Force on Hydroponic and Aquaponic Production, have established that organic hydroponic systems are capable of hosting the same diversity and quantity of microorganisms found in "good soil."[47] Examples from the Administrative Record are illustrative.

One CSO member operates a certified organic farm in Nogales, Arizona that grows tomatoes, cucumbers, squash, pepper, and eggplant in open fields, shade houses, and greenhouses, both in the ground and in containers.[48] In testimony at the National Organic Standards Board meetings, the grower described how hydroponic methods are incorporated as part of their overall farming plan. For tomato production, the grower has "invested in glass houses where we grow our tomatoes in containers" to avoid "disease, pest[s] and environmental pressure[s]."[49] The growing medium in the containers consists of coconut coir (a natural plant-based material), along with other organic inputs, like fungal or bacterial compost teas, that establish and maintain a microbiome in the plants' roots that assist with the cycling of nutrients to the plant.[50] After the tomato cycle is complete, the grower introduces the nutrient- and biology-rich contents of the containers into the fields outside the greenhouses where Sudan grass is grown, which, along with trimmings from the tomato plants, is used to produce compost on site.[51] In addition to allowing the grower to grow

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[45] AR 0555.
[46] AR 0566.
[47] AR 0572.
[48] NOSB Tr. 48–51 (Oct. 20, 2015) , https://www.ams.usda.gov/sites/default/files/media/NOSB%20Transcript%20October%202015.pdf
[49] *Id*. at 51.
[50] NOSB Tr. 107-11 (Apr. 19, 2017), https://www.ams.usda.gov/sites/default/files/media/TranscriptsNOSBApril2017.pdf.
[51] *Id.*

crops safely, minimize pesticides and chemicals, and avoid insects, growing hydroponically has reduced the farm's water use "by 80 percent . . . helping us to preserve critical natural habitat and resources."[52] This grower, which has been USDA certified organic for twenty years, would lose its organic certification should Plaintiffs obtain the relief they are seeking.

In testimony to the NOSB, another organic grower described growing tomatoes in containers with coconut husks, along with organic compost material sourced from high-nutrient corn and vegetable residues and microorganisms to create active biology in the container.[53] Once the tomatoes have completed their growth cycle, the container contents are incorporated into corn and soybean fields to help fields reestablish active soil biology to "improve the fertility and totality of the fields" while recycling materials and nutrients.[54] Growing in containers also resulted in more efficient water use for the farms, as water from the containers can be captured and recycled.[55]

A third example comes from the "aquaponic" farming method – a production method that combines recirculating fish culture with hydroponic plant production in a system that conserves water resources, recovers nutrient rich aquaculture discharge, limits chemical additives for fish and plant production, and improves plant growth rates (*i.e.*, obtaining higher yields per square foot) when compared to soil-based agriculture.[56] One aquaponic grower has built and operates an organic aquaponic farm in Hixton, Wisconsin. That system relies on a symbiotic relationship between fish, beneficial bacteria, and plants to grow certified organic greens. Water from the fish tanks is filtered to remove waste which is then broken down by nitrifying bacteria, first into nitrites, and then nitrates. The nitrate-rich water, containing comparable amounts of dissolved nutrients to soil and a diverse microbial community, is then circulated to the greenhouse, where plants absorb

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[52] NOSB Tr. 52 (Oct. 15, 2015), https://www.ams.usda.gov/sites/default/files/media/NOSB%20Transcript%20October%202015.pdf.

[53] AR 0396-98.

[54] *See* NOSB Tr. 90-102 (Apr. 13, 2017), https://www.ams.usda.gov/sites/default/files/media/TranscriptsNOSBApril2017.pdf; *see also* NOSB Tr. 264-68 (Oct. 31, 2017), https://www.ams.usda.gov/sites/default/files/media/TranscriptsNOSBFall2017.pdf.

[55] NOSB Tr. 264-68 (Oct. 31, 2017).

[56] NOSB Tr. 457-58 (Apr. 19, 2017).

the nutrients and clean water is returned to the fish tanks.[57] The Administrative Record contains testimony from other aquaponics growers noting similar production methodologies.[58]

The Report of USDA's Task Force on Hydroponics and Aquaponics provided additional case studies of growers having developed biologically active hydroponic growing operations meeting the organic standard through development and reliance on a soil food web ecosystem using microorganisms to break down and provide nutrients to hydroponic crops in the same way that soil-based ecosystems nourish in-soil crops.[59] And in some of those applications, hydroponic operations also contribute to the biological diversity of surrounding soils used to grow in-soil crops within the same Organic System Plan through recycling materials, composting, or adding biologically active materials or waters to the soil. *Id.*

Indeed, while there has been vigorous debate[60] about the place of hydroponics in organic agriculture – just as there have been on numerous other topics related to organic production – USDA's position has been consistent throughout the life of the NOP. Growers whose organic plans comply with the NOP, like *Amici*'s members, are entitled to organic certification; those whose plans do not comply are not entitled to organic certification. Plaintiffs have provided no basis for finding otherwise.

III. Granting Plaintiffs' Motion Would Harm Both Growers and Consumers.

Plaintiffs' attempt to disturb USDA's longstanding approach to organic certification for hydroponic production methods would have dramatic and disruptive consequences throughout a multi-billion-dollar industry that has come to rely upon the NOP's existing standards for organic hydroponic produce. These negative effects would be felt by both farmers and consumers.

Growers throughout the country have long relied on USDA's decades-long approach with respect to hydroponics to obtain organic certification. Indeed, the Administrative Record contains

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[57] *Id.*
[58] NOSB Tr. 113-14 (Apr. 13, 2017).
[59] AR 0608-0626.
[60] *See, e.g.*, Rita-Marie Cain Reid, *Alternative Organic: Legal Issues in Marketing Uncertified Organic Products*, 73 FOOD & DRUG L.J. 570, 576 (2018) ("One concern that has dogged organic producers from the outset is the lack of a clear definition of 'organic.'").

testimony from hydroponic growers that have been certified organic for more than a decade.[61] Hydroponic growers, knowing the market value of the "USDA Organic" label, have invested significant resources into infrastructure, research, and staff to grow organic fruits and vegetables that meet the significant market demand. For example, *Amici* estimate that growers invested a minimum $1.4 billion in initial capital costs for greenhouse tomato production systems and technology to enable organic hydroponic agriculture.[62] A sudden shift in organic certification standards would prevent these growers from obtaining the full benefit of their investments and cause confusion and uncertainty throughout the industry.[63]

Moreover, under the restrictive standards urged by Plaintiffs, far fewer fruits and vegetables will qualify as organic.[64] The potential effect on consumers is obvious: consumers will have less access to organic produce at a time when demand is rising. Consumer demand for organically produced food in the U.S. has increased dramatically over the past three decades: When Congress passed the OFPA in 1990, it noted that "recent" polls in 1988 and 1989 had "produced identical results – eighty-four percent of Americans want to purchase organically grown produce and half of them are willing to pay more for such products. There appears to be a consistent demand for organic food and American farmers are ready and willing to deliver it to the supermarkets."[65] Indeed, Congress clearly contemplated the organic program's expansion when it noted that "growth in the organic food trade … has been hampered" by a lack of consistent standards for production and passed the OFPA to set "national standards for organic production."[66] Demand has only continued to increase since then. According to USDA's 2019 Organic Survey, sales of organic commodities rose overall by 31% between 2016 and 2019, while sales of organic crops rose by 38%.[67] Of all

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[61] *See, e.g.*, NOSB Tr. 111 (Apr. 13, 2017).
[62] This figure was calculated using the USDA data for consumption of fresh tomatoes multiplied by the retail market share of organics and retail prices of organic tomatoes based on Nielsen retail scan data divided by current organic greenhouse yields multiplied by the current cost per acre for an acre of tomatoes.
[63] NOSB Tr. 119 (Apr. 20, 2017) (describing anticipated financial strain and job losses).
[64] *Id*. at 119-22 (describing percentages of greenhouse grown tomatoes, peppers, cucumbers).
[65] S. Rep. 101-357, at 289.
[66] *Id.*
[67] USDA-NASS, Highlights, 2019 Organic Survey, USDA-NASS (Oct. 22, 2020),

organic sales, 58% came from crops during that period.[68]

USDA's NOP has succeeded in encouraging growth of the organic sector, as Congress intended. As part of the 2019 survey, USDA found that 73% of all organic farms anticipate maintaining or increasing organic production over the next 5 years.[69] And since 2008, the number of organic farms, the acres used for organic production, and the value of organic products have more than tripled.[70] Total sales of organic produce were estimated to be $47.9 billion in 2018, an increase of 5.9% from 2017, compared to 2.3% growth in total U.S. food sales.[71] Consumers want more organic produce.

There are numerous reasons for this heightened demand, as evidenced by an academic study published in 2020, which conducted a "meta-analysis" of 25 years of survey data regarding "the major reason(s) for the purchase of organic grocery, milk, fruits and vegetables."[72] The study found that, over time, consumers have focused on three primary factors: personal health benefits associated with organic products, quality of organic products, and concern for the environment. Of these, the study found that consumers' primary interest was directed to personal health benefits, and that this health factor "can be perceived as a proactive mindset of people who are reacting against the adverse effects of chemicals-infested food products."[73] In other words, consumers' belief in what they perceive to be the healthy qualities of organics is connected to the prohibition on synthetic substances in organic foods – not to whether that food is grown in the soil.

While USDA does not track organic hydroponic production specifically, it does track organic tomatoes and vegetables grown "under protection," *i.e.*, under glass or some other protection, a substantial subset of which constitutes container-grown produce. USDA notes that in

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https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/.

[68] *Id.*

[69] *Id.*

[70] *Id.*

[71] Becky L. Jacobs, et al., *A Quixotic Quest for Definition: Perceptions of 'Organic' and Implications for the Environment and for Market Participants*, 12 KY. J. EQUINE, AGRIC. & NAT. RES. L. 141, 142 (2020).

[72] Jyoti Rana & Justin Paul, *Health Motive and the Purchase of Organic Food: A Meta-Analytic Review*, 44 INTR'L J. OF CONSUMER STUDIES 162-171 (2020).

[73] *Id.* at 167.

2019 alone, organic growers grew organic tomatoes "under protection" valued at $27,844,641 on 6,663,057 square feet of farmland and organic vegetables (exclusive of tomatoes) valued at $104,659,679 on 14,000,058 square feet of farmland.[74] Those numbers do not include organic container-grown mushrooms, sprouts, or berries, all of which are often grown in containers. Based on these and other data sets, *Amici* estimate that fresh produce grown in organic container systems has provided at least $1 billion worth of organic fruits and vegetables for consumers and retailers.[75]

Plaintiffs' approach to circumscribing eligibility for organic certification ignores Congress's intent "that production materials and practices keep pace with our evolving knowledge of production systems," and would stifle the "growth" Congress intended.[76] Indeed, it would create a significant shortfall in organic produce for American consumers and harm growers who have relied on USDA's approach for decades.

Conclusion

Under Plaintiffs' restrictive interpretation of what constitutes "organic" under the OFPA, growers wishing to produce organic produce would be disincentivized from adopting new and innovative agricultural methods, and those farmers who have invested heavily in hydroponic agriculture, relying upon decades of USDA precedent, will suffer, as will consumers, who will face a shortfall in available organic produce.

For these reasons, along with those set forth in USDA's cross-motion, *amici curiae*, the Coalition for Sustainable Organics, Aquaponics Association, Western Growers Association, and The Scotts Company, LLC respectfully request that Plaintiffs' motion for summary judgment be denied, and that Defendants' cross-motion for summary judgment be granted.

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[74] Data tables, 2019 Organic Survey, USDA-NASS (Oct. 22, 2020), https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Organics/index.php

[75] This includes USDA data on U.S. consumption of fresh tomatoes, along with average pricing of organic tomatoes and the market share of organic greenhouse tomatoes based on Nielsen retail scan data divided, plus similar data for peppers, cucumbers, mushrooms, sprouts and berries, all of which are often grown in hydroponic production systems. *See, e.g.*, https://www.organicproducenetwork.com/amass/doc-get-pub/document/17/2019%20Organic%20Overview%20update%203.0%20Final.pdf at 1-3.

[76] S. Rep. 101-357, at 297.

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Respectfully submitted,

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* *pro hac vice* to be filed