September 30, 2021

USDA-AMS-NOP
1400 Independence Avenue, SW,
Room 2648, Ag Stop 0268,
Washington, DC 20250

RE: Docket Number AMS-NOP-21-0038

Submitted via: https://www.regulations.gov

Dear Sir or Madam:

The Institute of Food Technologists (IFT) is a non-profit, membership-based scientific institute whose mission is to advance the science of food and its applications across the global food system, to ensure sustainable, safe, and nutritious food for all. Established in 1939, IFT has more than 12,000 individual members in over 100 countries from across industry, academia, government, and non-profit organizations. Organized around the core values of community, integrity, passion, progress, and respect, IFT's members and 68 staff create and uphold a scientifically sound society focused on overcoming barriers to feed our future safely. IFT's Global Food Traceability Center (GFTC) provides the global food industry resources and solutions to help improve food safety, diminish risk, avert devastating health consequences and economic loss to the food system. GFTC works throughout the food industry to develop next generation solutions that enable strategic commercialization across the food chain with benefits for the Ag/Food system, consumers, and the environment.

IFT appreciates the opportunity to provide input on the modernizing organic traceability discussion document prepared by the CACS subcommittee. We commend efforts to further enhance and clarify requirements for a safe, transparent organic food system. Our comments on the specific areas of the proposal are listed below.

Thank you for considering our comment on this important activity. If IFT may provide further information or assistance, please contact Bryan Hitchcock, Executive Director, GFTC, (bhitchcock@ift.org; 312-604-0225).

IFT-GFTC commends the NOSB in their ongoing work to improve traceability of organic products. Better leveraging existing traceability science and practice to meet the needs of the growing and maturing $60B organic industry can achieve the goals of improving both integrity and efficiency of inspection and certification. However, it is a large shift to execute the transition from distributed annual, audit-based verification reliant on a mix of digitized and paper records to transaction-level, centralized digital record keeping. IFT-GFTC recommends the NOSB support a stepwise structure for progressing through this large shift without creating undue burden for stakeholders or compromising data security or integrity. IFT-GFTC suggests

conducting systematic pilots to clearly dimensionalize the baseline conditions across a representative set of industry actors and develop the necessary stepwise structure to guide implementation of industry-wide traceability enhancements. First, by defining categories similar of actors and supply chains requiring pilots, considering both imported and domestic goods across a spectrum of processing levels. Then, the second step is working with the certifiers to construct a set of traceability pilots for a few supply chains representing each of the typologies. These exercises will reveal important attributes of the critical tracking events across representative supply chains and which data elements are truly critical in linking these events. Conducting these representative piloting exercises systematically is an important step in understanding what current tracebacks look like, which data elements are ***the most critical linking elements*** between actors in the supply chain and where additional standardization in the syntax or structure of those elements could aid either efficacy or efficiency. These piloting exercises can also be valuable for creating clarity around the best processes for capturing, transmitting, and verifying information; as well as where business sensitivities may impede transmission of data.

In our experience in other cross-industry supply chain initiatives, such as in developing the Global Dialogue on Seafood Traceability (GDST) standard for the seafood industry or in recent produce industry pilots for the FDA, we have found there are pros and cons to all the various technology solutions. What is universally beneficial, however, is to focus less on the platform and more on the data structuring techniques to ensure interoperability, or the ability to exchange and make use of information, between all the various systems in use across the industry. Systems may be dedicated traceability systems or could simply leverage data already present in businesses' ERP, MRP, or inventory management systems, refining structure and consistency to ease sharing and interpretation of key data elements in a way that mirrors the physical movement of products through space. Blockchain, cloud-based solutions or other traceability systems are approaches that may be of use to the industry, ***after*** thorough supply chain mapping, data standardization adoption, and implementation has taken place. While that foundational work is happening, organic industry leaders should continue to monitor available technological solutions' various pros and cons at they continue developing and overcoming barriers to adoption. For example, in the case of blockchain, Vu et al. (2021)[1] recently summarized 4 types of barriers to blockchain uptake in food supply chains: intra-organizational, inter-organizational, system-related, and external. Thus far, while there have been exciting advances in high-profile initiatives, those have been focused on single product pilots, not industry-wide or retailer-wide implementation. These pilots and the challenges they have revealed have spurred further development to overcome some of them, such as the introduction of permissioned blockchain to shorten the ledger update time and address concerns about visibility to business sensitive information material to pricing negotiations can be protected. Other issues, such as inaccurate inputs (even with automatic data capture using sensors, blockchain only guarantees digital trust not the physical monitoring of products); and variation in standards/systems are not unique to blockchain, but present some added challenge given the immutable structure. Further, on

[1] Vu, N. et al. 2021. Blockchain adoption in food supply chains: a review and implementation framework. *Planning and Production Control* https://doi.org/10.1080/09537287.2021.1939902

the fraud issue, Kumar et al. (2020) found '*malicious entities can band together and falsely validate inputs into Blockchain in a permissioned network*' demonstrating even if the significant barriers to implementation could be overcome, it might still perpetuate fraudulent product and information. Thus, we encourage NOSB to begin supporting adoption of interoperable data standards today, which will be a critical foundational step regardless of which technology platform(s) industry actors adopt. Further we suggest NOSB avoid over-committing the industry to any one platform as the diversity of needs, scales, and capacities that exist within the industry may mean that one size might not fit all, but rather ensuring all actors are set up for interoperability is probably most important at this juncture.

Improving guidance to streamline internal data capture and storage for validation during the audit of either the entity or their supply chain partners may prove palatable to industry actors' business sensitivities. In our recent work with produce, we found just a few key data elements such as a product lot code or lot code proxy, in conjunction with standard business transaction documents such as PO number, invoice number, and/or BOL number, alongside critical inventory management system data on product turnover effectively enabled timely end-to-end traceability.

Summary Points:

1. **Pilots to clarify structure, process, and roles.** Documenting the traceback processes currently taking place in annual certification audits offer an opportunity to clearly define CTEs and KDEs across a set of representative domestic, imported, processed, and fresh supply chains by category through a systematic piloting methodology as defined by Zhang and Bhatt (2014).[2] Conducting these pilots will enhance any subsequent guidance or rulemaking by clarifying who is responsible for transmitting which data elements in what form and when.
2. **Decentralized vs. centralized Storage.** There are advantages and disadvantages to both models of data storage, however at the scale and complexity of the current industry and its ongoing growth trajectory, a decentralized model may be more appropriate, effective, and scalable. This can still deliver the types of accessibility that NOSB seeks to achieve, delivered through consistency in data syntax and storage across the network of industry actors rather than in a centralized database vulnerable to hacking and posing a whole new set of burdensome submission and verification processes for stakeholders, further increasing the cost of organic goods.

Responses to Specific Stakeholder Questions:

1. How can technology efficiently and effectively be deployed to enhance supply chain traceability?

Technology can contribute in multiple ways to an efficient and effective traceability system. Examples include capturing and digitizing data across the supply chain, storing and transmitting

[2] Zhang and Bhatt. 2014. A Guidance Document on Best Practices in Food Traceability. *Comprehensive Reviews in Food Science and Safety* https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/1541-4337.12103

data, analyzing for trends, and conducting audits and investigations. Clearly defining the current state and the outcomes needed in the future state are critical first steps to take in enhancing traceability technology adoption in the organic industry. Building capacity of first-mile actors to capture key data elements and for downstream actors to receive, maintain, and transmit those key data elements are important next steps to improve traceability and integrity in organic systems.

2. What form must an organic link system (OLS) take to be non-burdensome for organic stakeholders, including certifiers, inspectors, handlers, operations, importers, etc.?

A decentralized system can be standardized in terms of the data elements captured, maintained, and transmitted, as well as the format of those elements to address the concerns mentioned in the discussion document. This outcome-focused approach avoids many of the inter-and intra-organizational barriers to a centralized model adoption by lowering the financial barriers to entry as well as not resulting in the considerable anti-competitive concerns that may be particularly burdensome to smaller-scale entities further up the supply chain who may already be disadvantaged in price negotiations. Pursuing a distributed model may maximize participation and security.

3. What challenges exist with the implementation of an organic link system (OLS)?

Scalability, speed, costs, and participation concerns due to visibility of price-critical data visibility are some of the biggest blockers that have prevented some traceability systems including blockchains from progressing beyond single item pilots[3]. As a diverse industry with many small and midscale actors, varying degrees of digitization at the producer stage, these scalability and regulatory inconsistency issues constitute a formidable challenge that may increase with the $60B industry's ongoing growth. Starting by identifying the key data elements for linking critical tracking events across supply chains and implementing data standards are steps the organic industry can take now to increase traceability capacity and insure interoperability across diverse constituencies.

4. Is there value in AMS, certifiers, and inspectors getting more granular with transaction-level detail to gain transparency throughout the complex supply chain?

Yes, transaction-level is appropriate, however it is important to identify and capture only the most key transaction data elements consistently. This is essential for the fraud use case and for ensuring the added traceability capacity is scalable.

5. What other methods exist for enhancing transparency?

Designing and implementing data standards, like the GDST standard for the seafood industry, that leverage GS1 standards[4] as a foundational framework is an alternative approach to achieving end-to-end

[3] Vu, N. et al. 2021. Blockchain adoption in food supply chains: a review and implementation framework. *Planning and Production Control* https://doi.org/10.1080/09537287.2021.1939902
[4] GS1 standards. 2021. GS1 US. Available from: https://www.gs1.org/standards.

traceability capable of supporting tracebacks in <24 hours, without becoming embroiled in data privacy concerns or excessive system cost and scalability issues. These data standards (GDST) also allow use of free identifiers to aid in adoption by low margin and first mile actors. Additionally, GS1 has also provides lower cost identifiers[5] for small businesses to make implementation more accessible in supply chains with smaller actors.

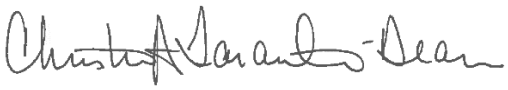
6. Are there additional areas that need to be considered for improvement to prevent fraud or react to fraud?

No additional comments.

7. Should the industry require the registration of land 36 months before certification?

Clarifying the form of production location information is an important dimension of any traceability system. Global location number (GLN) information can be used by certifiers to reveal land clearance or conversion within 20 years, which could be addressed in revisions to the standard to gird against this issue.

Sincerely,



Christie Tarantino-Dean, FASAE, CAE

IFT, Chief Executive Officer

[5] Retail Leader. 2020. GS1 US Launches Retail Toll for Small Businesses. Available from: https://retailleader.com/gs1-us-launches-retail-tool-small-businesses#:~:text=With%20a%20one%2Dtime%20cost,GS1%20US%20Data%20Hub%20%7C%20Product.