

## AOAC Testing Method Validation for Organic N Fertilizer Authenticity *Request for Stakeholder Support*

This stakeholder support form serves as part of efforts requested by the AOAC International for initiating AOAC method validation for organic authenticity testing.

**Goal:** To establish [AOAC](#)\* International approved methods for: 1) testing fertilizers to detect adulteration with prohibited synthetic substances and, 2) testing fruits and vegetables produced using these fertilizers. Based on history and risk, the initial focus is for AOAC method validation for testing the **authenticity** of **Organic N fertilizer** suitable for use in USDA organic production.

*\*AOAC stands for the Association of Official Analytical Collaboration International. It is a non-profit organization that develops and validates standardized methods and technologies for analyzing food, agricultural, and environmental substances.*

<https://www.aoac.org>

**ASK:** To support AOAC validation of testing methods for Organic (nonsynthetic) Nitrogen (N) Fertilizer.

- Signing this form signifies stakeholder support for AOAC method validation for Organic N Fertilizer Authenticity which in turn provides the organic sector with an additional tool to detect and deter organic fraud.

**Problem:** Currently, it is impossible to confirm the authenticity of Nitrogen fertilizers suitable for use in USDA organic production using an AOAC validated testing method. This creates an opportunity for organic fraud and poses a threat to the integrity of the organic label.

- The organic industry, especially the organic produce sector, is concerned about the growing potential for adulterated (fraudulent) organic fertilizer use on farms, and in the market, particularly those claiming compliance with USDA organic standards. **See fertilizer fraud background below.**
- One of the most effective ways to identify adulteration of Nitrogen Fertilizer is through testing. Analytical techniques are available, however have not been validated by a verification body such as the AOAC.
- Labs utilized by accredited certifying agents under USDA's National Organic Program (NOP) must, at minimum, be accredited to ISO/IEC 17025. Per the NOP regulations (§ 205.670(e)), chemical analysis must be made in accordance with the methods described in the most current edition of the *Official Methods of Analysis of the AOAC International* or other current applicable validated methodology for determining the presence of contaminants in agricultural products.
- Certified commercial labs will only adopt a testing method once it has been validated by a verification body such as the AOAC. As a result, analytical testing techniques are unavailable for use by NOP accredited certifying agents, state labs under fertilizer laws, or EPA for enforcement.

**Solution:**

- AOAC testing method validation is essential. Once established, commercial certified labs accredited to ISO/IEC 17025 will be able to adopt the validated testing methods, which will enable them to expand their testing capabilities and offer risk-based authenticity testing for nitrogen fertilizer to their clients. Testing for N fertilizer authenticity will:
  - ⇒ Help level the playing field for organic farmers and protect the integrity of the organic label; and
  - ⇒ Provide pathway for verification of N sources in fertilizers marketed as compliant for organic production, or any fertilizer marketed without synthetic N in the label disclosure.

## **What is AOAC validation?**

- AOAC INTERNATIONAL's Official Methods of Analysis<sup>SM</sup> program is the organization's premier program for consensus method development. Methods approved in this program have undergone rigorous scientific and systematic scrutiny and are deemed to be highly credible and defensible.
- AOAC validation of testing methods is important because it ensures that the results are accurate, reliable, and defensible. This consistency allows for comparable results across different labs, reducing the risk of errors and inconsistencies.
- Once a method meets all the requirements, and is approved by the review panel, it is adopted as an official AOAC method. Official methods are published in the AOAC Official Methods of Analysis and are recognized by regulatory agencies around the world.

## **What testing methods will be validated?**

- The analytical testing methods are substance-dependent and will be a combination of spectroscopic and isotopic techniques that are commonly used for tracing purposes.

## **Why is it important to test for organic (nonsynthetic) N fertilizer authenticity?**

The following factors collectively emphasize the importance of robust testing to ensure the authenticity of organic N fertilizers and maintain the integrity of organic agriculture:

- History of liquid fertilizer fraud and NOP Policy 5012 which highlights the need for stricter control and verification.
- The crucial role of Nitrogen in organic crop production and the challenges in managing it effectively.
- Limited availability of organic N sources in many regions, making adulteration with synthetic alternatives more tempting.
- The ease of adulterating organic fertilizers with synthetic N, which can undermine the integrity of organic farming.
- The potential for partial supply of N in organic farms using synthetic N, which is a violation of organic standards.

## **How will AOAC validated testing methods benefit the agricultural sector and organic stakeholders?**

Overall, AOAC validated testing methods for organic N fertilizer authenticity will benefit a wide range of stakeholders by improving the integrity of the organic market, protecting consumers from fraud, and promoting the use of sustainable agricultural practices.

AOAC validated testing methods will:

- Reduce the risk of fraud in the organic fertilizer market. This will protect farmers from being misled by unscrupulous suppliers and ensure that they are receiving the products they pay for.
- Provide regulatory bodies with the tools they need to effectively enforce organic standards and ensure the integrity of the organic label. This will help to protect consumers from fraud and maintain the credibility of the organic certification process.
- Improve the efficiency and effectiveness of regulatory enforcement by providing a more reliable and accurate way to test for organic N fertilizer authenticity.
- Reduce the risk of legal challenges from farmers or consumers who believe that they have been misled by the use of synthetic nitrogen in organic fertilizers.

## Fertilizer Fraud Background

- There is a well-documented history of detected (and convicted) fertilizer fraud in the organic industry. This includes fertilizer manufacturing companies gaining Material Review Organization (MRO) approval and selling “organic compliant” fertilizer adulterated with ammonium sulfate (See Marizyme™ and Agrolizer™, Port Organic, Ltd., and recent article titled Organic Implosion: “[How Two Gifters Cooked \\$50M in Fake Fertilizer and Rocked Agriculture](#)”) for complete history.
- In Feb 2009, NOP issued a notice and policy procedure (5012) to accredited certifying agents saying it will focus increased scrutiny on how inputs are approved for use by certified organic operations during accreditation audits, beginning with an emphasis on liquid nitrogen fertilizers. A policy titled “[Approval of Liquid Fertilizers for Use in Organic Production](#)” is currently maintained in the NOP Handbook, and requires all fertilizers with a nitrogen analysis greater than 3 percent be approved by a material review organization to be used in organic production. No where in the policy or procedure for approval is testing mentioned or required.
- The new USDA-NOP Strengthening Organic Enforcement (SOE) Rule is groundbreaking for the industry and represents a major step forward in strengthening oversight and enforcement of organic operations, including organic fertilizer use. SOE reinforces the need for accurate and reliable testing methods to detect intentional adulteration of organic products and inputs. AOAC validation of testing methods plays a crucial role in this context, as it ensures the validity and defensibility of the results used to identify and deter the use of prohibited substances in organic fertilizers.
- Given the history of fertilizer fraud in the organic sector, the increased concern about the authenticity and integrity of soil and crop amendments sold for use in organic production, NOP Policy on liquid nitrogen approval, and the purpose of the SOE Rule, it is both timely and imperative that systematic protocols and approved methods for evaluating, approving, and testing the authenticity of agricultural inputs, such as organic fertilizers and amendments, be established and implemented.

Thank you for your interest in protecting organic integrity. Please fill out the form fields on the SOS website at <https://organicsos.com/aoac-stakeholdersupport/> to add your organization to the list of stakeholders in support of AOAC validation of testing methods for Organic (nonsynthetic) Nitrogen (N) Fertilizer.

If you have any questions, please contact Gwendolyn Wyard at [gwenwyard@organicSOS.com](mailto:gwenwyard@organicSOS.com).

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