Bin2Bean

Practice abstract 24

SCAN ME!

Interlaboratory Comparison to Assess Analytical Consistency in Biowaste Compost Quality Parameters

Background & Project Overview

Biowaste-based soil improvers are essential for promoting a circular economy and sustainable agriculture. However, their safe application depends on the availability of reliable and comparable analytical data. Within the **Bin2Bean project (2023–2026)**, an international interlaboratory comparison (ILC) was organized to evaluate the performance and consistency of analytical methods used across Europe to ensure the quality and safety of biowaste-derived products.

Scope and ILC Setup

Conducted in October 2025, this study involved **14 laboratories from 7 EU countries**. The comparison focused on two biowaste compost samples from different batches. Participants had the opportunity to analyze altogether **9 key quality parameters**, ranging from physical properties like bulk density to chemical indicators like total nitrogen and organic matter, as well as safety factors such as the presence of physical impurities like glass and plastic.

Methodology and Analytical Approach

Organized by the **Finnish Food Authority** in collaboration with **Proftest Syke**, the ILC follows a structured scientific flow: collecting sample material at composting facilities, sieving, and homogenizing the material before distributing subsamples to participating labs. Statistical analysis of the reported results serves to identify analytical variation between testing laboratories and validate the effectiveness of standardized protocols for measuring compost quality and safety such as stability and nutrient content.

Findings and Significance

Results indicate that while some parameters are consistently measured, others show significant variability between laboratories, highlighting the need for further harmonization. The ILC provides a strong basis for developing future EU standards and improving data comparability for regulatory purposes. Reliable analytical methods strengthen market confidence in biowaste-derived products and support Sustainable Development Goals.

Project partners

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