Bin2Bean

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Practice abstract 28

Agronomic testing on experimental sites Collecting data for the scoring system

Characterizing Biowaste Solutions through Empirical Data

Within the Bin2Bean project, an agronomic testing was carried out to feed a comprehensive scoring system. This effort involves characterizing organic soil improvers from various Living Labs, including Amsterdam (AMS), Hamburg (HAM), and Egaleo (EGA), to help user to compare biowaste management solutions based on indicators to which he can attribute different weights.

Assessment Results and Data Integration

Experimental data collected from the Living Labs solutions across several key indicators:

- **Stability and Nutrients:** industrial digestates from Amsterdam showed rapid nitrogen (N) release (20% mineralization over 12 weeks), while composts from Hamburg and Egaleo exhibited high stability with negligible immediate N release, indicating their role as long-term carbon sinks.
- **Safety and Purity:** all validated industrial solutions confirmed the absence of Salmonella. Impurity testing measured plastics, metals, and glass, with decentralized school composts in Egaleo undergoing visual evaluations to rank their quality and identify areas for improvement in sifting and decomposition.
- **Ecological Properties:** parameters such as C/N ratios (ranging from 7 to 15) and organic matter content (up to 74.4 g/kg) will be used to parameterise ECOBIN digital advisory tool. This application uses the SNOMIN model to predict N mineralization, helping users select the most appropriate amendment, whether high-stability or mid-stability compost, based on specific soil textures and weather conditions.

This empirical foundation allows the project to move beyond simple waste management, focusing instead on the global effect of processes on soil biodiversity and long-term ecosystem service delivery.

Project partners

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