



Identifying the Source and Scale of Plastic in Compost Derived from Household and Commercial Food Waste

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Identifying pressures

The presence of contaminants in food waste bins is undesirable because it necessitates further processing of the material, incurs higher costs (associated with removing the contaminants) and results in lower value compost and digestate. The main objective of stakeholders is to significantly reduce the input of contaminants, particularly plastics, into the soil from the application of compost and digestate derived from food waste.

As part of this project, 50 biowaste characterisation studies were undertaken to identify contamination trends, with a specific focus on plastics.

The characterisation studies found that the contamination rate in all household biowaste collections was 8.9%, with the rate in co-mingled collections of food and garden waste being 9.8% and in collections of food waste being only 5.8%.

The proportion of plastics found in household biowaste collections was 7%. This is nearly double the 4% found in the Environmental Protection Agency (EPA) 2018 waste characterisation study. In commercial food waste collections, the level was 7% compared with 1% in the EPA 2018 study.

This research project indicates that the amount of plastic contamination in biowaste collections is increasing and needs to be controlled.

Informing policy

Ireland's waste policy – A Waste Action Plan for a Circular Economy – aims to promote the segregation of food waste to help meet EU recycling targets, and to support bioeconomy policies and the new European Green Deal, which promote the recycling of nutrients from organic wastes into products that can be used as soil improvers and fertilisers, thereby reducing the use of mineral fertilisers.

Developing solutions

After a review of policies, legislation and alternatives, a suite of solutions was developed to address the increased contamination of collected food waste, which includes:

- a bin inspection programme;
- a contamination limit of 3%, with a maximum of 1% plastics, in waste collection permits and processing facilities licences, similar to the German Biowaste Ordinance conditions;
- establishment of a regulated feedstock quality control programme along the lines of the German Biowaste Ordinance conditions;
- continuation of the mywaste.ie national food waste recycling awareness campaign;
- a uniform contamination policy adopted by all waste collectors;
- enforcement of the Single Use Plastic Regulation on the ban of oxo-degradable plastics and conditions on plastic bottle rings/seals.

A proposed biowaste forum could coordinate the implementation of recommendations from this report.

