



Anaerobic degradation of renewable plastics

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The Bioenergy and Organic Resources group was asked by the National Non-Food Crops Centre (NNFCC) to carry out a study of the anaerobic degradation of a number of renewable plastics. This information contributed to an overall feasibility study carried out by NNFCC out on behalf of the Department for Energy and Climate Change. The aim of the research was to determine whether anaerobic digestion (AD) is an effective treatment for a mixed food waste stream containing renewable plastics. In particular the work aimed to determine

- The impact of renewable plastics on biogas production, comparing a food waste, card packaging and renewable plastic feed to a food waste and card packaging only feed.
- Whether the resulting digestate meets the proposed PAS110 anaerobic digestate quality protocol.

Bio-plastics

The trial considered renewable plastics which have been certified by the composting standard EN13432, and have undergone biogas production potential tests in laboratory-scale batch reactors, in work carried out by OWS Belgium. These were co-digested with a mixture of food wastes and card packaging typical of those generated in supermarket wastes or domestic source segregated foodwaste collection schemes.



Supermarket food waste used in the trial