

Production of compostable micro-irrigation systems

In the European project DRIUS a completely compostable micro-irrigation system was developed and produced at industrial scale. The Spanish research organization AIMPLAS (Plastics Technology Centre) developed the compound for the production of the system at industrial scale in Spanish company EXTRULINE SYSTEMS and the Israeli manufacturer METZERPLAS. The project was coordinated by the company OWS (Belgium) that was also responsible for the demonstration of the compostability of the system.

The new developed micro-irrigation system, consisting of pipes with tubular or flat drippers, will make it possible to treat the irrigation system after its lifetime together with the organic waste in an industrial composting plant. Composting is an environmentally friendly treatment technology, commonly applied in Europe. The system offers the farmer a suitable and cheap alternative for treatment of the waste, instead of e.g. incineration.

The system was produced at the facilities of EXTRULINE using conventional extrusion lines and field test with a duration of 6 months was conducted in the hot climate of Murcia during summer time. During this period, the system kept its functionality and proved to be at least suitable for crops with short cultivation periods such as strawberries and tomatoes.

Testing at OWS facilities demonstrated that the system is completely compostable and fulfills the requirements of compostability as defined by the harmonized European norm EN 13432 *Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging* (2000). These requirements include demonstration of complete biodegradation in compost, disintegration of the system during composting process, and evaluation of no negative effect on compost quality (e.g. heavy metals), including plant toxicity tests. Currently the micro-irrigation system is undergoing certification to achieve the Seedling logo of European Bioplastics.

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