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Input to EU microplastics consultation

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The need to address microplastics in sewage biosolids, organic streams and recycled fertilisers

The main current focus on microplastics addresses their release into and contamination of surface waters, and resulting concerns about impacts on aquatic organisms and possibly on human health. However, some microplastics will also be found in sewage sludges (biosolids) and other organic streams (e.g. compost or digestate from municipal food and green waste). Possible impacts on soils and terrestrial ecology should therefore be addressed.

At present in Europe, around half of sewage biosolids are recycled to land (often after anaerobic digestion and/or composting for energy recovery, sanitisation and stabilisation). Also, policy objectives are to increase valorisation of (non avoidable) food waste organics and nutrients. These processes will not eliminate microplastics. Maintaining the agricultural use of appropriately treated sewage biosolids, digestates, composts and secondary raw material based fertilisers, whilst ensuring safety for farmers, crops, soil organisms and the environment, is important for closing the loop for nutrients (Circular Economy for phosphorus, nitrogen, etc.) and for restoration of soil carbon (Paris Climate Change objective of 4/1000 soil carbon).

ESPP therefore suggests that research and monitoring is needed:

- to better understand which microplastics, from which sources, at what levels, are present in sewage biosolids and other organic streams
- monitoring methods for microplastics in such organic streams, in soils, in terrestrial ecology and in agriculture
- partition of microplastics between biosolids and liquid discharge in different sewage treatment systems
- fate in different soil/crop systems of microplastics from biosolids, composts and digestates, in particular risk of leaching or loss to surface or groundwater and risk of crop uptake and of grazing animal uptake (where biosolids are used according to standard safety recommendations)
- impacts of microplastics reaching soil on soil fauna, plants, crops, and environmental and human health risk assessment (farmers, populations near fields where biosolids are used, consumers via crop consumption)
- fate of microplastics in sewage biosolids treatment processes, and possibilities for removing them and so preventing environmental dissemination
- risk assessment to support decisions concerning microplastics in nutrient recycling, in particular in the EU Fertiliser Regulation

The European Sustainable Phosphorus Platform (ESPP) is a membership-funded, not-for-profit association, which brings together industry, knowledge institutes and public establishments to promote and implement phosphorus sustainability in Europe, including from the following sectors

- *Water and waste treatment*
- *Fertilisers and soil amendments*
- *Chemicals*
- *Recycling and processing technology suppliers*
- *Knowledge institutes*
- *National and regional governments*
- *Partner networks: composts, digestates, manure management, R&D networks …*
- *National or regional nutrient or phosphorus Platforms*