

Commentary

Plastic film mulching in agricultural technology

Rosa Penalver*

Department of Analytical Chemistry, Faculty of Chemistry, University of Murcia, Murcia City, Spain.

Received: 04-Feb-2022, Manuscript No. FAFT-22-59137; Editor assigned: 08-Feb-2022, PreQC No: FAFT-22-59137 (PQ); Reviewed: 24-Feb-2022, QC No: FAFT-22-59137; Revised: 01-Mar-2022, Manuscript No: FAFT-22-59137 (R). Published: 08-Mar-2022

DESCRIPTION

In the agricultural production process, a huge number of plastic products are used, and recycling effectiveness is low, resulting in the formation of a large number of micro plastics. As a result, micro plastic pollution in agricultural regions must be evaluated as soon as possible. Furthermore, micro plastics have diverse occurrence features in agricultural regions with various land use types. It shows that there is little difference in micro plastic abundance between paddy field and garden land, which may be due to the fact that there are few sources of micro plastics in the land of these two utilization modes, and the potential pollution sources are similar, such as micro plastic deposition in the atmosphere, fibers falling on people's clothes during farming, and agricultural use of sludge. Because of widespread pollution, micro plastics have become a worldwide environmental problem, posing a threat to food security and human health if they infiltrate agricultural soils. The principal sources of micro plastics entering agricultural soils were outlined, with an emphasis on the various characterizations and environmental fates of each source. The transformation and transport of micro plastics in agricultural soil systems were investigated, with the impacts of Ultraviolet (UV) irradiation and mechanical abrasion from soil fauna and agricultural operations highlighted. Plastic materials weather in the environment, becoming smaller sized micro plastics, of which pollution in agricultural areas is a major issue and growing societal concern. Plastic mulch films are a major cause of micro plastic contamination in agricultural soil. The method and kinetics of micro plastic production from plastic mulch coatings, on the other hand, remained largely unknown. Micro plastics have become one of the most persistent contaminants in terrestrial habitats, posing a risk to soil quality and the creatures that live there. Understanding the prevalence and distribution of micro plastics in soils is critical.

Plastic film mulching is an essential agricultural method that helps to increase crop output while also keeping the soil wet. Long-term covering and late recovery, on the other hand, result in a huge amount of plastic residue in soils. Over time, this decomposes into tiny plastics, reducing sowing quality, destroying soil structure, and causing harm to soil organisms. When wastewater bio solids are used as a fertilizer on agricultural fields, contaminants such as micro plastics and per- and Poly Fluoroalkyl Substances (PFAS) are released into the air, posing a major inhalation danger. This calculates the total PFAS and micro plastics in bio solids, examines their potential for wind transmission, and identifies research requirements to quantify PFAS and micro plastics in bio solids inhalation hazards. The fast and stealthy rise of Micro Plastics (MPs) in the environment has lately become a global concern, with an increasing number of studies demonstrating MPs' negative impacts on many ecosystems. Micro Plastics (MPs) are new pollutants that have been found in agricultural environments in large quantities. Soil fauna plays a vital role in soil health and biodiversity, but the interaction between soil animals and MPs has never been well investigated. MPs can be consumed by soil animals, causing feigned satiety, insufficient nutrition, oxidative stress, intestinal damage, and other negative consequences. Micro plastic pollution of the environment is rising, necessitating more effective technologies for separating and detecting tiny plastic particles. Fenton oxidation is used to remove living matter, centrifugation is used to separate micro plastics from soil, and Nile Red staining, fluorescence microscopy, and image processing are used to identify and quantify micro plastic. Plastic film mulching is an essential agricultural method that helps to increase crop output while also keeping the soil wet. Long-term covering and late recovery, on the other hand, result in a huge amount of plastic residue in soils. Over time, this decomposes into tiny plastics, reducing sowing quality, destroying soil structure, and causing harm to soil organisms.

*Corresponding author. Rosa Penalver, E-mail: rosa.penalver@um.es.