



## **Nanoparticles from Degradation of Biodegradable Plastic Mulch**

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Plastic mulch films are commonly used in crop production. They provide multiple benefits, including control of weeds and insects, increase of soil and air temperature, reduction of evaporation, and prevention of soil erosion. The use of plastic mulch film in agriculture has great potential to increase food production and security. Plastic mulch films must be retrieved and disposed after usage. Biodegradable plastic mulch films, who can be tilled into the soil after usage offer great benefits as alternative to conventional polyethylene plastic. However, it has to be shown that the degradation of these mulches is complete and no micro- and nanoparticles are released during degradation. We conducted a field experiment with biodegradable mulches and tested mulch degradation. Mulch was removed from the field after the growing season and composted to facilitate degradation. We found that micro- and nanoparticles were released during degradation of the mulch films in compost. This raises concerns about degradation in soils as well.