Agricultural Plastic Waste Mapping in Greece

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Abstract
A detailed geographical mapping of the agricultural plastic use in Greece was conducted in the framework of a European project[1] focusing in the areas of high concentration. Quantitative data and analysis of the agricultural plastic waste generation by category (films, bags etc), the geographical distribution, the compositional range and physical characteristics of the agricultural plastic waste per use, the temporal distribution of removal, the current agricultural plastic waste management practices and disposal methods available are presented.

Reported information on the agricultural plastic use in Greece is sporadic and unreliable. Detailed geographical information data have been collected, including the specific intensive protected cultivation zones and the transportation system that are necessary for planning an integrated waste consolidation - management system at a regional level (i.e. number and location of consolidation stations required). Data from the Ministry of Agriculture and the Statistical Organization of Greece were combined with information from the services of the prefectures, local agronomists and farmers, site visits and interviews with the sales departments of major producers and importers of agricultural plastics. The timing of removal of the used plastic from the field was investigated through interviews with local farmers and agronomists. The temporal distribution of the agricultural plastic waste generation within each zone is important for the logistics of the consolidation operation. The composition and physical characteristics of the agricultural plastic waste streams were mapped by category and by application. These characteristics, may delimit some of the disposal options of the streams (i.e. recycling, energy recover) and guide the consolidation methodology. Transportation options from the fields to the consolidation stations were also investigated. Their operational and technical characteristics are analysed and compared to map current practices.

This work represents the first systematic effort to completely map the agricultural plastic waste generation and consolidation in Greece. The structured information and the reliable data provided in this work are expected to stimulate the design of an optimized waste management system for the agricultural plastic wastes chain in Greece. It is also expected that this work will facilitate the implementation of the labelling scheme to be developed in the framework of the European project Labelagriwaste .