

Hazardous agricultural waste in Greece: Current status and future perspectives

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The growing awareness of environmental issues and scarcity of resources explains the increasing interest regarding the management of waste in general and particularly hazardous streams. During the last decades and considering the need of higher yields of production, agriculture has been intensified with consequent escalation of its possible effects on the environment and climate change.

Except from its products, agriculture also produces significant amounts of waste. Solid and liquid waste originating from agricultural activities have been identified worldwide as among the most hazardous human activities producing waste, not only due to their pollutant content but also due to the spatial distribution of pollution sources all over the cultivating areas of each region. Agricultural practices produce many and different wastes mainly related to the use of plastic materials, energy, water, pesticides and fertilizers, and to the generation of biomass and livestock slurry. The latest sufficient data submitted in the Eurostat Database are for the year 2006 where Greece estimated the production of wastes occurring due to agriculture, forestry and fishing to approximately 4.7 million tons per year; whilst the respective EU-28 amount reached 57.7 million tons, with the amount of hazardous waste occurring due to this stream reaching 780.000 tons per year.

These include the following hazardous waste groups that require special treatment: expired plant protection products, spray tank mix remnants, empty pesticide containers, olive mill and milk processing waste, crop processing waste, end-of-life-cycle spraying and motorized equipment and some specific types of plastic materials used in agriculture that are potentially hazardous (e.g. silage and horticultural films, irrigation pipes, greenhouses covers, fertilizers and pesticides packaging etc.).

In the present study the major hazardous waste streams originating from agriculture in the Greek territory will be examined and current as well as future perspectives and novel techniques for their valorization will be presented.

Keywords: hazardous, waste, management, agriculture, Greece, status