

MANAGEMENT OF AGRICULTURAL PLASTIC WASTE (APW) – A PILOT TEST IN GREECE

Demetres Briassoulis^{1*}, Konstantinos Liantzas¹, Miltiadis Hiskakis¹

¹Department of Natural Resources and Agricultural Engineering, Agricultural University of Athens, Iera Odos 75, 11855, Athens, Greece

*Corresponding author: Email: briassou@aua.gr, Tel: +30 210 529 4011, Fax: +302105294023

The problem of APW and the scope of Labelagriwaste project

Every year tons of agricultural plastic waste are burnt or uncontrollably disposed to the environment. The uncontrollable burning releases harmful substances that cause pollution while the accumulation of plastics in the agricultural land results in its irreversible contamination and physical degradation. The serious environmental problems related to the management of APW at European level, led to a European research project LABELAGRIWASTE¹, now in progress, aimed at developing a viable scheme for the collection and valorization of the agricultural plastic waste either by recycling or by incineration for the production of energy. According to the scheme technical specifications will be established for the various disposal and exploitation options. Also a technical, financial and legal labeling scheme will be developed concerning the collection and sorting of the waste on the fields and handling and labeling of the waste at the collection stations so that the waste meets the proper specifications for recycling or energy recovery. The whole proposed scheme is evaluated through pilot tests with the participation of all parties involved in the APW chain. The Pilot tests have been planned and executed to test the procedures to be followed and evaluate the proposed scheme, to understand better the problems to be expected and quantify the various parameters involved in the scheme and to be able to implement the results obtained to improve the final proposed labelling scheme. This paper presents the pilot test carried out in Greece to collect, sort and label the APW in a centralized location in a way that will maintain their quality and will meet the specifications required for their disposal. The scheme emphasizes in the viability of the solution and quantifies all the parameters.

Pilot Test for the management of APW in Greece

The pilot test was organized in the following phases: a) mobilization of the farmers and local communities to participate; b) removal of the APW from the field c) collection of APW from fields to a designated collection area, d) baling, labelling and storage of the APW. The specifications for the disposal of the APW and the piloting of the disposal schemes are described in [2, 3].

Mobilisation of actors involved

After a series of intensive public and targeted awareness campaigns and press releases for the dissemination of the objectives of the project pilot tests in the selected area of Heleia in South West Greece (TV, radio, newspapers) by AUA with the contribution of PASEGES (Panhellenic Confederation of Unions of Agricultural Cooperatives) towards the farmers and farmers associations in the beginning of year 2007, there has been a major motivation of many actors of the agricultural plastic waste (APW) chain in the broader region of the collection area. Exporters of agricultural products, certification companies, farmers, municipalities of the Prefecture of Heleia and local communities have shown directly great interest for the organisation of a cost efficient and environmental friendly management system of APW. This interest was shifted into action with the energetic participation of many farmers in the Pilot Test of 2007. The exporters of agricultural products and the certification companies with their own means of transportation begun collecting and transporting the waste low-tunnel films early in 2007 in the collection area of Gastouni in cooperation with AUA and PASEGES.

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Removal of the APW from the fields and Delivery to the Collection Area

Ways of removal of the APW and their impact to the entire scheme (sorting, baling) as well as to the quality of the resulting bale (disposal specifications) were investigated. The means of transportation, distance, time and frequency of deliveries at the collection station were investigated as well as the process of sorting the delivered material.

Labelling and Baling

The sampling, labelling and baling of the collected and sorted APW was investigated at the collection area. The samples collected were tested for their mechanical and chemical properties and their contamination [1]. The testing results were used to label the collected materials according to the proposed labelling scheme against the specifications established for each disposal option [2,3].

Conclusion

The pilot test carried out in Greece to implement experimentally and evaluate the proposed labeling scheme for the management of APW has allowed: a) the quantification of key operations like the method of removal, transportation, sorting, sampling and baling; b) the identification of the most important factors affecting the quality of the APW and its ability to meet the disposal specs;.

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References

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