

2475 NONDURABLE MANAGEMENT OF HOUSEHOLD WASTE IN BATNA (ALGERIA) AND PROSPECTS FOR A SUSTAINABLE DEVELOPMENT**Sefouhi L. and Kalla M.**

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The concept of sustainable development is based on the principles of use responsible for the resources of planet and of environmental protection. The question which one does put, how to save our natural resources before is too late? The management of waste implies a total control of the life cycle of the products, since their production until their elimination. The methods evaluation of life cycle (ECV) and of management of life cycle (GCV) seemed useful instruments to contribute to choose a management of solid household waste. This method requiring of the data which were collected starting from the investigations into grounds and of the statics recorded by the direction of the environment. In Algeria, the life cycle of solid household waste is very short, which generally passes by the production of waste, the regrouping in a site and the treatment which will be done is in wild discharges where an important mass of our natural resources is burned, or in center technical hiding, which does not fulfil the requirements of a controlled discharge. The town of Batna, knows a management system requiring of the important modifications, since the production of waste until elimination and that from the point of view of a sustainable development, while starting to distribute the flow of waste identified between recycling, composting, the recuperation of the energy and the medical hiding and by examining principal materials in the flow of waste (paper, glass, ...etc).

2538 SOLAR DRYING IN GREENHOUSE OF MIXTURE OF OLIVE MILL WASTEWATER AND OLIVE CAKE IN MOROCCO**Lakhtar H.¹, Ismaili-Alaoui M.², Perraud-Gaime I.¹, Macarie H.¹, Roussos S.¹**

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Morocco is a country which produces olive oil extensively and this industry within the country is currently under huge expansion. This particular industry, which is usually realized with triphasic processes using the technique of pressing, generates tons of wastes: olive mill wastewater (OMWW)(liquid waste) and olive cake (solid waste). The OMWW which is being dumped in the environment results in serious environmental pollution while olive cake do have a proper disposal. To switch from the traditional process (three phases) to advanced technology for olive oil extraction (two phases) for Morocco is not practical due to problems related to agricultural, industrial as well as on socio-economic accounts. Hence, it is an essential need to devise a technology that could address this issue resulting in an efficient process for waste disposal and thus enhancing the olive industry in Morocco.

In the present work, a new integrated process is described to eliminate the OMWW produced by a triphasic system. This process consists in using olive cake as a sponge to absorb all the OMWW produced and then to dry the mixture in a greenhouse to get a final moisture of 10% (weight/weight). The dried mixture could be valued in the same way as the original olive cake.

The ratio of OMWW/olive cake (86 litres/100 kg) produced in this type of Moroccan mills is such that the amount of OMWW exceeds the retention capacity of olive cake (62 litres of OMWW/100 kg of olive cakes). In these conditions, the olive cakes produced by a mill are not able to absorb all the OMWW produced by the same mill. Realizing this problem, drying has been done in 2 steps. The first step was to humidify the olive cake with OMWW up to 60% (initial moisture of olive cake was 35% at exit of the press) and apply a drying process to reduce this moisture to 32%. The second step of drying was to re-humidify the mixture to 50% moisture then drying to 10%. The saturation of olive cake with OMWW at 60% moisture allowed to accelerate the first drying and the fact to limit this first drying to a final moisture of 30% allowed to incorporate much more easily the rest of OMWW in olive cake for the second drying step.

The heat gain in the greenhouse compared to a system of drying in open sun has been determined. The kinetics of drying was recorded. The effect of a forced convection was also tested in order to accelerate the process. Other parameters that influence the drying process need to be studied and optimized. Finally, a characterization of the dried mixture also need to be performed to predict its future utilization and determine whether it might be valued in the ways existing for crude olive cake. The above dried material will be used as substrate in Solid State Fermentation for culturing filamentous fungi and edible mushrooms.

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