

Accepted Manuscript

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PII: S2214-3173(17)30009-4

DOI: <http://dx.doi.org/10.1016/j.inpa.2017.06.004>

Reference: INPA 92

To appear in: *Information Processing in Agriculture*

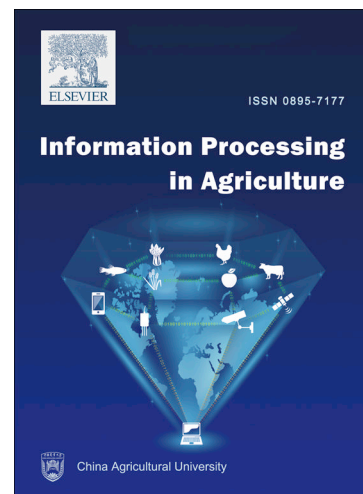
Received Date: 19 January 2017

Revised Date: 29 June 2017

Accepted Date: 30 June 2017

Please cite this article as: B. Bernardi, S. Benalia, A.D. Zema, V. Tamburino, G. Zimbalatti, An automated medium scale prototype for anaerobic co-digestion of olive mill wastewater, *Information Processing in Agriculture* (2017), doi: <http://dx.doi.org/10.1016/j.inpa.2017.06.004>

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An automated medium scale prototype for anaerobic co-digestion of olive mill wastewater

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Abstract

Olive oil production constitutes one of the most important agro-industrial business for Mediterranean countries, where 97% of the international production is focused. Such an activity, mainly carried out through three phases olive oil mill plants, generates huge amounts of solid and liquid by-products further than olive oil. Physico-chemical features of these by-products depend on various factors such as soil and climatic conditions, agricultural practices and processing. As currently carried out, the disposal of these by-products may lead to numerous problems taking into account management, economic and particularly environmental aspects. Indeed, olive mill wastewaters are not easily biodegradable due to their high chemical and biochemical oxygen demand, their high contents in phenolic compounds, high ratio C/N and low pH, leading consequently to soil and water source pollution. Considering, the above-mentioned statements, olive mill wastes disposal constitutes nowadays a challenge for oil industry stakeholders. It becomes necessary to look for alternative solutions in order to overcome environmental problems and ensure the sustainability of oil industry. Anaerobic co-digestion of olive mill wastewater with other agro-industrial matrices could be one of these solutions; since it offers the possibility to produce green energy and break down toxicological compounds contained in these wastewaters for a better disposal of the

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