Comparative Analysis of Animal Manure through Supplementary Heating: An Evaluative Study on the Quality of Agricultural Production

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This project proposes alternative and innovative ideas for the use of manure released by animals such as fertilizer, providing the rural worker increase their income and propose better quality of life and agricultural productivity, since it depends on agriculture and animal husbandry for survival. The research also carried out additional heating with the solar cooker and after the photovoltaic conversion. The objective was to provide better quality in the agricultural production from a compost with additional heating, and producing electricity through photovoltaic conversion. Thus, supporting the income of small and large farmers. Methodologically, the qualitative-quantitative research presented an exploratory scientific method and analyzed the problems about the production of alternative energy and the organic matter produced by the animals. The following processes were used: composting, data collection, control group with lettuces and construction of a sustainable vegetable garden. Supplementary heating positioned at the sides of the system channeled solar rays to solar plate. Arriving at a maximum temperature of 63 ° C inside the compost, the battery was fully charged inside the solar cooker in 15h and off the solar cooker at 7.30pm. on daytime. It was possible to recombine the manure that showed to be more promising in the process of growth of leaves and roots of lettuces. The biomass weight was evaluated after 25 days of cultivation, chemical, granulometric and microbial evaluation. In this sense, an applicability with a broad social character stands out. An ecologically correct idea that can alleviate the problem of food and electric power.

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