The objective of this study was to evaluate the production of the CP-50 of Pleurotus ostreatus in coffee bagasse dehydrated (Coffea arabica) in relation to other agricultural waste of the Municipality of Tetela de Ocampo-Puebla, the coffee bagasse was collected in the zone of Cuahutempan, Puebla-México and the other agricultural waste as they are: wheat straw (Triticum aestivum), straw of barley (Hordeum vulgare), bean straw (Phaseolus vulgaris) and Corn stubble (Zea mays) were acquired in the region of Tetela de Ocampo, Puebla, Mexico, for obtaining of fruitions in rural conditions. The CP-50 showed adequate growth of aerial mycelium in coffee bagasse dehydrated, reaching a production rate of 1.5± 0.2 %, the highest biological efficiency (EB) was obtained in the wheat straw substrate with 119,24± 7,1 %, in remainders of coffee bagasse dehydrated with 109,03± 0.4 % and corn stover obtained the lowest EB 77.47 ± 0.2%. The results demonstrated the feasibility of cultivating the CP-50 of Pleurotus ostreatus under rural conditions in the northern sierra of Puebla State, taking advantage of residues in banana in regions surrounding the municipality. This represents an opportunity to develop the production of the oyster mushroom, with minimal investment, which can have a significant impact as agribusiness to take waste from the production of coffee harvested area, which amounts to more than 700 000 hectares in the country.

**Keywords**

Substrate, Bagasse Coffee, CP-50, Pleurotus ostreatus, Biological Efficiency.