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# Biological Efficiency (BE) of *Pleurotus ostreatus* on Corn Straw and Supplemented Sawdust in Pelotas - Brazil

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**Abstract**

In recent years, mushrooms production (*Pleurotus* spp) has increased around the world due its degrading capacity, versatility and low complexity at cultivation process. The South of Brazil allows the development of this activity once presents satisfactory climatic conditions: mild temperature and high humidity and a wide availability of subsistence agriculture residues. In this experiment was used: 70 % of corn straw, 15 % of eucalyptus sawdust, 8 % of wheat bran, 5 % of gypsum and 2 % of calcium carbonate to pH 5.5 and 2 % of P. ostreatus var. Florida inoculum in relation to the wet weight of used substrate. The substrate preparation was conducted by immersing the ground of corn straw in water for 24 hours, after this period occurred the mixture including the sawdust, wheat bran and supplements. This mixture was conditioned in 5 kg bags. In sequence bags were submitted to the vapour chamber at 95°C for 8 hours. The cultivation took place in a rubble greenhouse with controlled humidity. A total of 22 bags were observed, as result, the production volume of week 1 and 2 were similar ($p = 0.154$), the same occurred at week 2 and 3 ($p = 0.092$). The production volume of week 3 was lower when compared to week 4 ($p = 0.015$). The mean values to mushroom's production per bag was 1025,45g. The mean values of week production per bag were: 361g (±118) to week 1, 297g (±80) to week 2 and 226g (±86) and 154g (±20) respectively to week 3 and 4. The result of BE=68.4 % indicates satisfactory result for the first contact between fungus and substrate. The present productive process is a sustainable option to study region considering the availability of corn straw and eucalyptus sawdust, another research is investigating the effectivity of this process on farm system.

**Keywords:** Biological efficiency, mushrooms, South of Brazil

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