

## TEMPORAL PATTERN OF XYLANOLITIC COMPLEX ACTIVITY OF *LENTINULA EDODES* UFV70

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The agro-industry in Brazil is highly active and accumulates large amount of lignocellulosic residues. *Lentinula edodes* has shown great ability on degradation of these materials by releasing extracellular enzymes, such as those of the xylanolytic complex. One of the advantages of utilizing enzymatic activity to produce xylose from lignocellulosic materials is that it avoids the use of some toxic materials necessary in the industrial process, reducing environmental pollution problems. The objective of this work was evaluating the temporal pattern of the xylanolytic complex activity by *L. edodes*. The fungus mycelium was cultivated in sawdust supplemented with rice bran and a mixture containing CaSO<sub>4</sub> and CaCO<sub>3</sub> (4:1 w w<sup>-1</sup>). Enzymatic activity and protein concentration were determined by DNS and Bradford methods, respectively. Xylose was quantified by HPLC. During second and fifth weeks, the specific xylanolytic complex activity increased, and became constant after sixth till eighth weeks of growth, achieving the maximum value of 0.622 U µg<sup>-1</sup> of protein. Protein concentration increased during all the experiment, from 5.423 up to 24.853 µg mL<sup>-1</sup>. Xylose concentration decreased until the fourth week reaching values close to zero. The results suggest that the initial xylose concentration has repressed the xylanolytic enzyme complex synthesis by this fungus.