

SUMMARY

Molecular identification and enzymatic characterization of wild species of the genus *Pleurotus*

The world consumption of edible mushrooms of the genus *Pleurotus* has increased in recent years; however, usually the strains are from temperate countries and little is known about diversity in tropical areas. The use of the diversity would allow to propose species adapted to local climatic conditions. The objective of this work was to identify and to characterize the enzymatic profile of wild strains of *Pleurotus* from the central zone of Veracruz, to know their lignocellulolytic potential and to contribute to selection of strains with culture capacity. The strains used are part of the mushroom collections at the laboratory of the FACBA, which were collected in five municipalities of the central region of Veracruz. Strains were identified by sequencing their ITS region. The enzymatic activity ligninase (Lacasa, EC1.10.3.2), the total cellulase enzyme activity expressed as Filter Paper Units (FPU / L), endoglucanase (EC 3.2.1.4) (UI / L) and xylanase (EC 3.2. 1.8) (UI / L) was evaluated. Strains were cultured in liquid medium of wheat bran enriched at 2% and a strain of *Pleurotus pulmonarius* was used as control. *Pleurotus djamor* and *P. albidus* species were identified. *Pleurotus djamor* was the most abundant species in the central zone of the state. *Pleurotus albidus* could be a new record for the state of Veracruz, however morphological evaluation is required for confirmation. Two specimens (HUV15 and 1163) showed the highest enzymatic productivity for ligninase (laccase) and cellulase (total cellulase, endoglucanase and xylanase), surpassing in productivity the commercial strain *P. pulmonarius*. These specimens could be grown on agroindustrial substrates. The strains MXLD 24, MXLD 13, 598 and 601 (*P. djamor*) showed an important productivity in at least two types of enzymes. The species identified showed interesting characteristics for their cultivation in the central region of Veracruz.

Key words: *Pleurotus*, ITS markers, lignocellulolytic potential, culture.