We studied the production of plant cell wall-degrading enzymes in Lentinula edodes grown on sawdust medium. A mycelial mat was spotted onto the center of a medium plate, which was then incubated at 23°C for 31 days. Laccase (EC 1.10.3.2) activity was detected before that of other enzymes. Laccase activity increased along with mycelial growth until the leading edge of the mycelium reached the edge of the plate, and then decreased. Decrease of laccase activity was followed by increased activity of other enzymes. Sawdust treated with purified laccase (Lcc1) was more sensitive to degradation by crude enzymes from L. edodes. These results suggest that laccase plays an important role during early stages of solid-state cultivation of L. edodes.

Key words: Laccase, Lentinula edodes, Lignin-degrading enzymes, Plant cell wall-degrading enzymes, Solid-state cultivation