

A Solid-State Bioprocess for Selecting Lipase-Producing Filamentous Fungi

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A solid-state bioprocess with wheat bran and rice husk as substrate was used to isolate filamentous fungi with lipase activity from dairy effluent and soil contaminated with diesel oil. The lipase activity was measured in units, with one unit (U) being defined as the amount of enzyme required to liberate 1 μmol of fatty acids per minute per gram of bran substrate ($1 \text{ U} = 1 \mu\text{mol min}^{-1} \text{ g}^{-1}$). We obtained 24 isolates of filamentous fungi with lipase activity, 17 from the dairy effluent and 7 from the diesel oil-contaminated soil. The best lipase producers were the dairy effluent isolate *Aspergillus* E-6, with a maximum lipase activity of 49.81 U, and *Aspergillus* isolate O-4 recovered from the diesel oil-contaminated soil, with a maximum lipase activity of 45.49 U. Both isolates produced their maximum lipase activity eight days after the start of the bioprocess.

Key words: Filamentous Fungi, Lipase, Wheat Bran