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Selection and optimization of lipase production from *Aspergillus flavus* USM A10 via solid state fermentation (SSF) on rice husks and wood dusts as substrates

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Isolate USM A10 which was identified to be *Aspergillus flavus* was selected from a screening programme for lipase production via a solid state fermentation system (SSF). The optimization of lipase production by *A. flavus* USM A10 using rice husks and rubber wood dusts as substrates revealed a maximum production of about 7.0 U g⁻¹ substrate and growth of 0.20 mg glucosamine g⁻¹ substrate. The productivity of lipase after optimization was 50% higher of 4.42 U h⁻¹ mg⁻¹ glucosamine compared to before optimization of 0.2 U/h/mg glucosamine. The optimized medium and cultural conditions consisted of wood dusts and rice husks of size 2.0 mm at the ratio of 1:1, 90% moisture content and inoculum size of 5x10⁵ spores/g at 28°C. The addition of sesame oil at 6% (w/w), maltose 0.15% (w/w) and (NH₄)H₂PO₄ 0.05% (w/w) also enhanced the lipase production by the fungus.