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Alternative substrates for the production of *Purpureocillium lilacinum*

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The increasing demand for more sustainable agricultural practices has driven the adoption of microbial-based bioinputs for pest and disease management. In this context, fungi such as *Purpureocillium lilacinum* have emerged as a promising alternative for the biological control of nematodes. This study aimed to compare different substrates for the production of *P. lilacinum* (CCT 2757) in solid-state cultivation, using parboiled rice, triticale, and insect feed. Propagule production was determined by colony counting on potato dextrose agar (PDA) and expressed as colony-forming units per gram of dry substrate (CFU g^{-1}). The results showed statistically significant differences among the evaluated substrates ($p < 0.05$). The highest mean production was observed in rice (1.6×10^{10} CFU g^{-1}), followed by triticale (5.2×10^{9} CFU g^{-1}) and poultry feed (4.6×10^{8} CFU g^{-1}). According to Tukey's test at a 95% confidence level, triticale did not differ statistically from either rice or poultry feed, indicating an intermediate performance. In contrast, rice showed the highest production, while insect feed presented the lowest performance. These findings indicate that, although rice remains the most efficient substrate for *P. lilacinum* production, triticale represents a viable alternative, as it can be used without significant statistical losses in propagule production. Additionally, triticale offers economic advantages, as its cost is approximately three times lower than that of parboiled rice, supporting its potential use in substrate diversification strategies and cost reduction in the production of microbial bioinputs.

KEYWORDS: solid-state fermentation, design of experiments, *Purpureocillium lilacinum,* bioinputs.