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Effect of starter culture addition on the formation of biogenic amines in fermented idli batter

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Usage of starter cultures in food industries is a promising way to ensure food safety and quality by providing consistent fermentation and predictable end product quality. Idli is a cereal-pulse based fermented food. For the first time, this study attempted to reduce the formation of biogenic amines in the idli batter by inoculating potential starter cultures when stored at 30 and 40°C for seven days. The potential starter cultures were screened by the amino acid decarboxylase test. Histamine, tyramine, putrescine, cadaverine, spermidine, and spermine were investigated in the idli batter using HPLC technique. The formation of biogenic amines in the idli batter fermentation was highly influenced by the inoculated starter cultures. Histamine, a most toxic biogenic amine was not found in all idli batter samples. The highest total biogenic amines were detected in the *Pediococcus pentosaceus* inoculated idli batter 184.04 µg/g stored at 30°C for three days was significantly higher than the control idli batter. Meanwhile, *Lactobacillus plantarum* inoculated idli batter showed no biogenic amine formation under both storage conditions which ensure that idli is a safe food to consume.

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