

Title Control of *Aspergillus flavus* in maize using biological and natural materials
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Abstract

It was found that *Saccharomyces cerevisiae* was not efficient in preventing the growth of *Aspergillus flavus* and aflatoxin production in stored maize. *Lactobacillus acidophilus* was able to decrease the growth of the fungus and its production of aflatoxin in storage. *Bacillus subtilis* was the strongest treatment among others which could inhibit the fungal growth and aflatoxin production when storage period reached 21 days. With addition of 0.05 ml marjoram per 100 g of maize, reduction of the *A. flavus* count reached 62.5% at 21 days of storage. Raising the level of marjoram to 0.1 ml inhibited the growth *A. flavus* completely at 7 days and up to the end of storage, also preventing aflatoxin production. This was also noted with higher marjoram levels. The minimum inhibitory level of mint to be used against the development of *A. flavus* was 0.3 ml per 100 g maize. This level was also able to prevent aflatoxin production. The minimum inhibitory concentration of salt to prevent *A. flavus* growth in maize was 1 g salt/100 g maize. This concentration can be successfully used in the storage of maize up to 21 days, and is also suitable to prevent aflatoxin production.