Surveys on postharvest handling, Aspergillus flavus infection, and aflatoxin contamination of maize collected from farmers and traders

Dharmaputra, O.S. (Institut Pertanian Bogor (Indonesia). Fakultas Ilmu Pengetahuan Alam dan Matematika),Retnowati, I.,Purwadaria, H.K.,Sidik, M.

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Abstract

Postharvest handling, Aspergillus flavus infection, aflatoxin contamination, moisture contents, and percentages of damaged kernels of maize were surveyed in Central Lampung (Lampung province) and Kediri (East Java province) regencies. Farmers and traders were surveyed during the dry and wet seasons in 1993-1994. The results showed that, in both regencies, most of the farmers sun dried their maize, either shelled or on the cob, on paved floors. They generally used a mechanical sheller and stored maize in jute or polypropylene bags. The moisture levels in maize collected from farmers and traders during the wet season in both regencies were higher than those in maize collected during the dry season. The moisture levels in maize collected from farmers during the two seasons were higher than those in maize from traders. The percentage of damaged kernels collected from farmers was higher in the dry season than in the wet season. However, season did not affect the percentage of damaged kernels in maize collected from traders. The location of farmers did not have a significant effect on the percentage of damaged kernels but, in maize collected from traders, there was a higher percentage of damaged kernels from Central Lampung regency. In kernels collected from farmers, there was a higher percentage infection by A. flavus in maize from Central Lampung regency than from Kediri regency. During the dry season, the percentage of kernels infected by A. flavus in mazie collected from both farmers and traders was higher than during the wet season. In maize collected from farmers, the percentage of kernels infected by the fungus during both seasons in the two regencies was lower than in that collected from traders. Total aflatoxin B1 in maize collected from farmers was not significantly different from that in maize from traders.