MOISTURE REQUIREMENTS FOR GROWTH OF *ASPERGILLUS FLAVUS* ON MAIZE

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Maize is one of the agricultural commodities highly susceptible to aflatoxin production. It was the cause of more than 100 human deaths in India in 1975. Maize is produced increasingly in Sri Lanka for use as an ingredient in the preparation of food for human as well as for animals. The use of aflatoxin contaminated maize pose a threat to human and animal health.

Damaged and splitted maize kernels were moistened to different levels by dipping in water. They were stored in closed beakers containing spores of *Aspergillus flavus* isolated from local foods. The kernels were examined daily under the microscope for fungal growth. Growth of *Aspergillus flavus* was observed on maize at moisture concentrations between 16 to 24%. At moisture concentrations above 28% *Rhizopus* sp. grew readily on maize. At 16% moisture the presence of *Aspergillus* was visible in 4 days on the damaged kernels and in 8 days on undamaged kernels. The growth of fungi was noted initially at the pointed end of the kernels. Reduction of moisture concentrations below 14% appears to be an important criterion in controlling post-harvest growth of Aspergilli on maize kernels. Maize is harvested at a moisture content around 30%. Slow drying of maize could thus permit ready contamination by *Aspergillus flavus*. None of the *Aspergillus flavus* isolates used indicated production of aflatoxins when they were grown on coconut agar medium and examined under uv light for violet-blue fluorescence.