The initial deposits of all the insecticides were high and these dissipated to lower levels in subsequent days. Among the insecticides tried, only methyl parathion recorded the highest initial deposit followed sequentially by phosalone, quinalphos and fenitrothion but the half-life value was highest for quinalphos followed by phosalone, fenitrothion and methyl parathion in the decreasing order.

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AFLATOXIN B_1 FORMATION BY *ASPERGILLUS FLAVUS* ON THE GRAINS OF SOME COMMON MAIZE CULTIVARS

Aspergillus flavus Link ex Fries was isolated from several maize samples collected from Banswara District of Rajasthan during 1975 (Siradhana *et al.*[3]). This fungus produced aflatoxin B_1 on maize grains. Krishnamchari *et al.*[2] attributed deaths in Banswara and Dungurpur Districts of Rajasthan due to aflatoxicosis during 1974. It was thought desirable to know if aflatoxin B_1 formation varies on different maize cultivars under the same set of environmental conditions.

Fifty gram seeds of Ganga–5, VL–54, Vijay, Ganga Safed–2, Shakti and Moti Makka were sterilized in 100 ml Erlenmeyer conical flasks at 15 lb pressure for 20 min. Each flask was inoculated separately with 1·5 ml of spore suspension of *A. flavus* having 4×10^4 spores per ml. The flasks were incubated at 30 ± 1° C for 20 days. The seeds so incubated were ground and sieved through 20 mesh. A sample of 25 g of the ground material was weighed and aflatoxin B_1 was extracted as described by de Iongh *et al.*[1]. Quantity of aflatoxin B_1 was calculated in each g of material as described by Omprakash and Siradhana[4].

Maximum aflatoxin B_1 formation was observed ou Ganga Safed-2 followed by Vijay, Maharana, VL–54 and Ganga–5. On opaque (Shakti composite) aflatoxin B_1 formation was minimum (Table I).

TABLE I

Formation of aflatoxin B_1 by Aspergillus flavus *on different cultivars of maize incubated at* 30 ± 1° C *for* 20 *days*

Cultivars	Aflatoxin B_1 in mg/g of grains
Ganga–5	17·17
VL–54	25·07
Vijay	35·72
Ganga Safed–2	48·08
Maharana	27·82
Opaque	15·45

Humidity plays an important role in the establishment of infection on grains in fields. It was observed that there was always more *Aspergillus* infection when the cobs were inoculated during *kharif* rather than during *rabi* and/or *zaid*.

In the areas where high rainfall and high humidity prevails after harvest, cultivars which support maximum formation of aflatoxin B_1 should not be recommended for cultivation. Maize materials which do not support formation of aflatoxin B_1 beyond safe limits should be utilized for breeding purposes. Enough work has not been done on this line.

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