

Eight rows from the center of each five-acre plot was machine harvested and the seed cotton weighed at the gin.

Treatment	Yield (lbs seed cotton/8 rows)					Mean
	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	
Isobac (layby)	1180	1025	1220	840	940	1041a
Isobac	1150	860	1070	890	1050	1004a
Untreated	980	1290	990	990	760	1002a

Interpretation of this data indicates, in this test, Isobac did not significantly increase seed cotton yields over the untreated check. Some increase in the yield by the Isobac 20 layby treatment is suggested by comparing mean weights but the difference is not statistically significant at 5% level. Boll rot in this field was considered to be moderate (25 bolls/13 linear feet).

AFLATOXIN

Assessment of Twelve Varieties for Ability to Support Aflatoxin Production

T.E. Russell, G.F. Ryan, and J. Easley

During the 1974 growing season replicated variety trials were conducted on the Yuma and Mesa Experiment Stations to check a broad range of cotton varieties for the ability of their seed to support aflatoxin production. Bolls of various ages from twelve varieties were inoculated with Aspergillus flavus during the season. Seed cotton was harvested at the end of the season and analyzed for aflatoxin. Each mean represent 12 field replications.

1974 Aflatoxin Variety Trial

Mesa Exp. Sta.		Yuma Exp. Sta.	
Variety	Aflatoxin (ppb)	Variety	Aflatoxin (ppb)
Stripper 31	1,649	Acala SJ-1	2,490
Stoneville 213	2,087	McNair 511	4,367
Coker 310	2,656	Dalcott 277	5,050
Deltapine SR-1	2,725	Deltapine SR-1	5,071
Deltapine Nectariless	3,013	Stoneville 213	6,989
Acala 1517-70	3,013	Stoneville 731-N	7,351
McNair 511	3,446	Acala 1517-70	7,778
Deltapine 16	3,548	Stripper 31	10,671
Acala SJ-1	3,656	Deltapine 16	12,267
Dalcott 277	3,674	Coker 310	13,416
Stoneville 731-N	4,056	Deltapine Nectariless	14,717
Coker 711	6,342	Coker 711	14,996

VARIATIONS IN SOIL AND BOLL POPULATIONS OF ASPERGILLUS FLAVUS AMONG COTTON GROWING AREAS OF ARIZONA

T.E. Russell and E.M. Mulrean

Populations of Aspergillus flavus in soil and on cotton bolls vary among production areas in Arizona's cotton growing belt. Soil and boll-bract wash dilutions of replicated samples obtained twice during the growing season from 32 fields scattered across the state revealed a trend toward higher populations of A. flavus in soils and on bolls in those areas which consistently experience problems with contamination of cottonseed by aflatoxin. Lower populations were evident in areas with a marginal or a nonexistent aflatoxin problem. The pattern may be associated with elevation and growing temperatures. In general, areas such as Yuma, Parker, and Roll, Arizona, with lower elevations and the highest growing temperatures, had population of A. flavus propagules in soil and on bolls-bracts than did a cooler and higher elevated area such as Florence, Marana, or Safford, Arizona (Table 1).