Table 3.—First-generation infestations of the southwestern corn borer when plant dissections are made at preharvest and at harvest time.

Number of Borers Applied per Plant	Per Cent of Plants Infested		Number of Mature Borers per Plant	
	Preharvest	Harvest	Preharvest	Harvest
Plants Infested May 15–16				
0	0	22	0.0	0.2
2	82	89	1.0	1.3
5	98	97	1.0	2.3
Plants infested May 25–27				
0	0	8	0	0.1
2	84	97	1.3	1.4
5	94	100	2.4	2.7

harvest dissections were made 40 days after the borers had been applied to the plants. The results of the two dissections are given in table 3. At preharvest all borers were known to be of the first generation, represented as summer-form (spotted) sixth-instar larvae, pupae, and pupal cases. At harvest time all spotted borers and pupae and those pupal cases that appeared to be fresh were classified as of the second generation. No winter-form (immaculate) borers were found. The pupal cases that did not appear to be fresh were classified as of the first generation.

With one exception, more plants were classified as infested by the first generation at the harvest than at the preharvest dissection. In the plants to which borers were not applied none were found infested in the preharvest dissection but at harvest time 8 and 22% had borers classified as first generation. At every level more borers were classified as first generation in the harvest than in the preharvest dissection. These differences show that some of the second-generation pupae were erroneously classified as first generation.

Because of manual infestation the first-generation borers in this test were of equal age. Likewise differing from natural infestations, the second generation was smaller than that of the first generation. Since harvest-time dissections gave only approximations of the two generations in this test, they would be a less accurate basis for distinguishing the two generations in plants that were naturally infested.

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Insecticidal Control of *Epilachna vigintioctopunctata* (F.)[1]

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Severe damage to brinjal (eggplant) and the potato crop is caused by *Epilachna vigintioctopunctata* (F.) (Coleoptera, Coccinellidae) which is widely distributed all over Orissa. In case of brinjal, during the months of July and August seedlings are attacked from the time of germination until they become 20 to 30 inches high. In the later stage the plants in most cases withstand the feeding of the larvae without being killed, but stunting of growth is evident.

A test to control this pest was conducted on a local variety of brinjal that was planted on July 5, 1957. The insecticide formulations tested were DDT 50% wettable powder, BHC 50% wettable powder, malathion 25% wettable powder and endrin 20% E.C. The experiment was conducted in randomized replicated plots each of which was 234 sq. ft. in area. There were five replications of each treatment. The sprays were applied with a battery knapsack sprayer on August 27, 1957, or 7 weeks after planting. Counts of the *Epilachna* grubs and pupae were made on the plants of the two central rows of each plot prior to the application of insecticides. The effects of the insecticides were determined by counting the number of *Epilachna* grubs and pupae surviving on the plants of the two central rows of each plot at the end of 48 hours after application of the insecticide. The percentage decline determined from the initial and final counts for each treated and untreated plot was transformed into angles and the critical difference at 5% level of significance in terms of angles is given at the end of table 1.

Table 1.—Percentage decline in the population of *Epilachna* grubs after spraying with different insecticides, 1957.

Insecticide and Lb. per Acre	Reduction in Infestation (Average Angle)[a]
DDT 50% W.P., 1.25	57.0
BHC 50% W.P., 1.25	49.1
Malathion 25% W.P., 2.5	65.1
Endrin 20% E.C., 1.5	67.7
Check	36.5
L.S.D. at 5% level	18.57

[a] Average of five replications in each case; 12 plants of two central rows.

CONCLUSION.—Endrin 20% E.C. sprayed with a dose of 1.5 pounds per acre was most effective. A dose of 2.5 pounds per acre of malathion 25% W.P. was also very effective. Spraying of DDT 50% wettable powder at the rate of 1.25 pounds per acre gave some control but it was inferior to endrin and malathion. BHC 50% W.P. sprayed at 1.5 pounds per acre proved to be of little value for the control of *Epilachna* grubs.

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