ENTOMOLOGY

Chairman: G. E. Lehker, Purdue University

Arlo Vance, U. S. Department of Agriculture, Purdue University was elected chairman for 1947.

ABSTRACTS

Studies on the attractiveness of dent corn to moths of the European corn borer. Ray T. Everly, Bureau of Entomology and Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture.—Differences in the number of eggs laid by moths of the European corn borer (*Pyrausta nubilalis*, (Hbn.)) on different kinds of dent corn have been observed and reported by several writers. Recent detailed studies have been made to evaluate the differences and to determine their possible usefulness in control of the European corn borer. Available data indicate that the attractiveness of corn to the corn borer moth is a chemotropic response due to the presence of certain odorous substances in the plant tissues. However, chromophotic responses, particularly to invisible radiations, and responses to the physical characteristics of the ovipositing surfaces of the plants may also contribute to the variations in the numbers of eggs deposited on different kinds of corn. Two factors independent of inherent differences in the attractiveness of corn to the corn borer moth must be measured and taken into account in evaluating the kinds of corn in the test. These two factors are height of the corn during the early summer period of oviposition and plant maturity as measured by the date of midsilking during the late summer period of oviposition. In tests conducted over the three-year period 1943-45 at Lafayette, Indiana, inbred line Illinois A was outstanding in its unattractiveness. Inbred lines Wisconsin CC5 and Illinois R4 were relatively unattractive. Inbred lines Iowa L317, Indiana WF9, and Indiana Tr were very attractive. Similar results were obtained when these unattractive and attractive inbred lines were tested in single-cross combinations, indicating that the factors responsible for such ovipositional differences are inherited. It has been observed that when most of the corn in a large area is planted late and is therefore small and relatively unattractive, corn borer moths deposit more of their eggs on other host plants. In some areas where corn is not planted, or where the corn borer moths emerge before corn is available to them, the eggs are laid on other host plants. Therefore, if unattractiveness could be bred into hybrid corn, it is reasonable to expect a lower egg population on such corn, as a greater proportion of the eggs would be laid on other plants.

The control of certain insects by eliminating their animal vectors. MILTON CAROLINE, U. S. Fish and Wildlife Service.—Certain Hexapoda and Acarina such as fleas, mites and ticks can be more easily controlled by eliminating their animal vectors. This is a discussion of the pests involved, their animal vectors, and the best means of eliminating such hosts. Special attention is given to the control of rodents and birds.

Date of planting of dent corn in relation to infestations and populations of the multi-brood European corn borer.—H. O. DEAY, Purdue University.—A five-year study of the relation of the date of planting of dent corn to infestations and populations of the multi-brooded corn borer shows that the percentage of stalks infested and the average population per stalk are less in corn planted during the 10-day period from May 25th to June 5th than they are in corn planted either earlier or later. The earlier that corn is planted the more it is attacked by first-brood corn borers, and the later it is planted the more it is attacked by the second brood. The first brood does not damage corn planted after June 1st, and the second does very little damage to corn planted before this date. The yield of corn was found to be higher in plantings made from May 20th to June 5th than in earlier and later ones.