required, six panicles that are ready to flower are harvested from each clone and labeled. The bundles of panicles from all 49 clones are then placed in one bucket of water and are put in a cool room in the laboratory. None of the heads are disturbed in the morning until the anthers to be exerted for any particular day are ready to shed their pollen. Then the entire group of heads are shaken vigorously to bring the exerted stigmas in contact with a mixture of approximately equal proportions of pollen from the 49 different clones. This shaking process is continued each morning until all florets on the panicles have flowered. The culms are then left in the bucket of water until the seeds are mature. Polycrosses produced in this manner have shown wide variations in yield and some of them have significantly out-yielded the check variety in the test.—GLENN W. BURTON, Coastal Plain Experiment Station, Tifton, Ga.

RODENT INJURY ON 2,4-D PRE-EMERGENCE-TREATED CORN

PRE-EMERGENCE treatments of 2,4-dichlorophenoxyacetic acid, calcium cyanamid, sinox, stoddard solvent, sulfuric acid, and ammonium thiocyanate were applied on corn on May 24, 1947, to an area in the corner of a 6-acre field which had been planted to Ohio M-15 corn on May 23 and 24, at State College, Pa. There were 36 treatments, each plot being four rows wide and 40 feet long. There were four replications. The 2,4-D was applied in two forms, as 2,4-D acid mixed with sand and applied dry by hand over the row and as the iso-propyl ester added to water and applied over the row with a knapsack sprayer at the rate of 100 gallons of water per acre. The area covered in both cases was approximately 6½ inches on each side of the row. The concentrations over the rows were 3, 6, and 9 pounds of 2,4-D acid equivalent per acre.

There was a very uniform stand and no apparent injury from any pre-emergence treatment except on the plots which receive 20 pounds of nitrogen per acre in the form of ammonium thiocyanate over the row. This treatment is eliminated from the following discussion and analysis.

On June 3 some rodent injury was evident but on the night of June 4 the injury was exceedingly severe. The most severe injury occurred on the eastern edge of the plots, 90 feet from a farm road which had grown up to tall grass the previous season, and on the northern side which was near a field of wheat.

Most of the plants at this time were in the three-leaf stage and were about 3 inches tall. The plants were dug up by rodents, the kernel removed, and the plant left at the edge of the hole. The holes were about 1 inch in diameter and about 1½ inches deep.

The analysis of variance on stand count in the two center rows shows highly significant differences for treatments (Table 1) and also for replications. There was no significant difference in treatments when the 2,4-D treatments were eliminated from the analysis of variance, neither were there significant differences in the 2,4-D treat-

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