

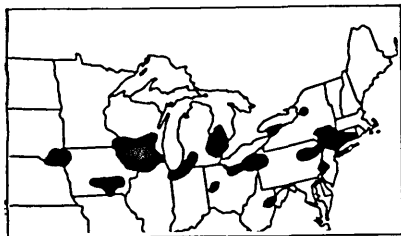
on the fertilizer plots were made for 1937 and again for 1938. All plots to which sulfate of ammonia and sulfate of iron had been added showed good weed control. Although it appeared that sulfate of ammonia was the best nitrogenous fertilizer, there was strong evidence of the necessity of supplying phosphate in some form.

damaging form is brood A of the 3-year cycle. In this region an outbreak of more or less severity may be expected every third year, beginning in 1939.

The length of the cycle may vary with latitude, being 2 years in the southern and 4 years in the northern parts of the range of a species which has a 3-year cycle in the intermediate region.

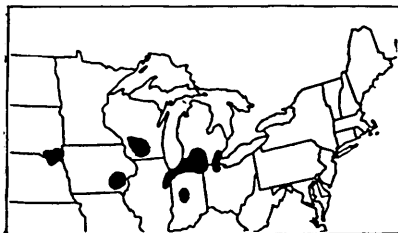
WATCH FOR WHITE GRUB DAMAGE

The life habits of the white grub were described by Luginbill of the United States Department of Agriculture in Farmers' Bulletin 1798,



Map showing districts of greatest abundance of brood A white grubs. The extent of these districts and the amount of the damage will vary somewhat from one outbreak to another.

and the author points out that in the area roughly bounded by the Ohio River on the south, the lower Great Lakes region on the north, South Dakota on the west, and Connecticut on the east, the most abundant and



Map showing districts of greatest abundance of Brood C of white grubs

Recently Louis A. Spain, research entomologist at the Iowa State College, as reported in the Seed World has called attention to the probability that damage to pastures in Iowa may be greater in 1939 than in 1938. Since the May beetle lays eggs on turf as well as on pasture it will be wise to watch for damage and to apply remedies.

The maps from Farmers' Bulletin 1798 show where brood A and brood C may be expected to be bad in 1939.