

### THE BOLL WORM (*Heliothis armigera*).

This is really more destructive to the manifold crops of Florida than the more noted cotton worm. It has not less than a dozen food plants, attacks corn in the growing shoot, the "tassel," the "silk," and the grains in all stages. It bores into the tomato, fruit or stem; it devours the pods of peas, beans, cotton and okra, and does much damage to young squashes, melons and cucumbers. It is especially fond of young tobacco plants, and in the seed-bed, or when first transplanted, devours the buds and tender leaves.

The moth is a stout-bodied, dusky yellow insect, though the early flying specimens, caught lately in March, are a pale orange-red. The fore wings have a broad dark stripe near the outer margin, with a row of small dark dots. The hind wings are lighter in shade, but also margined. Its flight is quick and darting, beginning before sunset, when it may be seen hovering, or fluttering softly over flowers. It expands one and one-half inches. The egg is dingy white, conical, ribbed and cross-furrowed. The worms vary from pink to nearly black in color, with a pale stripe each side of the body. It is the borer of most plants, feeds voraciously for three weeks, descends into the ground, and in a week comes out a perfect insect. This worm manages to ruin at least one-tenth of our corn, one-third of our tomatoes and is the cause of most of the "shedding" of cotton, and, having so many food-plants, it will be hard to exterminate.

Plowing fields deeply in December or January will destroy many of the early moths. Building fires at night in the fields during February or March will also do good. Setting traps—shallow vessels filled with syrup and vinegar—around tobacco or cotton fields will save much work later on.

In seed beds, the use of Pyrethrum powder is advised; dust freely over the young plants every few days.

Planting of corn in cotton fields is often done, but unless the ears are carefully noticed, and the worm killed, the corn serves as a breeding ground for the first and second broods of the boll-worm, which attacks the cotton afterward. The practice is a very questionable one.

### THE COTTON STAINER (*Dysdercus saturellus*).

This pretty soldier, in his scarlet coat with its white cross on the back, is one of our worst pests. It damages cotton in all stages, piercing the stalks, the young bolls, the soft seeds, and injuring the lint by the stain from its excrement. It also has developed an appetite for the luscious juice of our oranges, and recently has been seen on peaches. The puncture on orange and peach soon causes decay, and the fruit drops. It can be found almost any time during the winter in old cotton bolls left on the dead stalks, evidently preferring these places, thus emphasizing the necessity of clearing up old fields as soon as possible after the crop is made. Sugar cane bagasse is another favorite resort, and this could be used as a trap, first poisoning the cane with London purple.