(1) *Oviposition Tests.*

Fertile females are tested in closed cages with portions of the plant on which oviposition is required, and it may be found that (*a*) oviposition takes place on the plant; (*b*) the insect refuses to oviposit on the plant, but oviposition takes place somewhere else in the cage; (*c*) the insect refuses to oviposit.

(2) *Starvation Tests.*

These tests are carried out on the larvæ and adults of all phytophagous insects, and consist of confining them with the plant alone; consequently they have to eat it or starve.

If in oviposition tests eggs have been laid on the plant, then these are allowed to hatch *in situ*; if they are not fertile, then fertile eggs are placed on the plant. Where the larvæ and not the eggs are being used for transference they are selected from their natural food plant and placed on the plant under investigation, the insects being tested in the four following stages: (*a*) First larval instar, newly hatched; (*b*) half-grown larvæ; (*c*) beginning of last larval instar; (*d*) imago when necessary.

These tests may result in any of the following: (*a*) Feeding on the plant; (*b*) feeding, but without vigorous attack; (*c*) feeding, followed by death; (*d*) refusal to feed and consequent starvation.

(3) *Preference Tests.*

These are used to show to what extent an insect favours a certain plant. Under starvation tests it is determined whether the insect is positive or negative to a large number of closely related plants, while under preference tests the degree to which each of these plants may be parasitized in the presence of others is readily determined. For instance, blackberry may be the natural food plant of a certain insect, but it is necessary to determine to what extent loganberry may be parasitized. A number of insects are placed on loganberry which has been proved positive, and then blackberry is introduced into the same cage. The following results may be obtained: The insects may persist on loganberry and not attack blackberry at all; a certain number may go over to blackberry, the rest remaining on loganberry; or they may all leave loganberry and commence feeding on blackberry.

PARASITES RECEIVED AND RECENT OPERATIONS.

Early in 1927 the following insects were received for the Institute: (1) *Thyatira batis* Linn., (2) *Agrilus ruficollis* Fabr., (3) *Bembecia marginata* Harris, (4) *Coroebus rubi* Linn.

Seventy-eight pupæ of *Thyatira batis* were received, and fifty-two of these emerged, twenty-two being males and thirty females. The moths were placed in egg-laying cages, and 340 larvæ resulted. These, on account of very heavy mortality and starvation tests, were reduced to sixty-four. The starvation tests showed that they were positive towards raspberry and loganberry, but negative to strawberry. Preference tests were also carried out, resulting in the following: (*a*) Raspberry *versus* blackberry—All larvæ returned to blackberry, showing a very strong preference for it. (*b*) Loganberry *versus* blackberry—The larvæ again returned to blackberry.