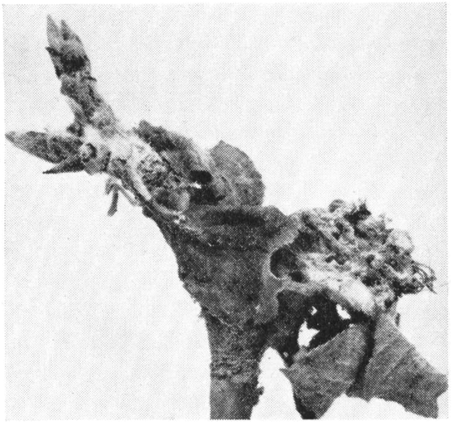
HAROLD F. MADSEN and LOUIS A. FALCON

New insecticides against

Orange Tortrix

tested on apples near Watsonville

The orange tortrix on apples in California usually has been controlled satisfactorily by the use of TDE in the codling moth schedule of treatments. However, the recent increase in cases of codling moth resistance to TDE—and to DDT—has caused some growers to change to other insecticides, although little is known about the effectiveness of the substitute compounds against orange tortrix.



Overwintering sites on apple twig.

The orange tortrix is almost as important a pest as the codling moth. The orange tortrix is a surface feeder, but the shallow bites the pests take in the calyx, stem, or the sides of the fruit make the fruit unsuitable for fresh shipment and rejected by most processors except those engaged in producing juice.

To evaluate several new compounds against the orange tortrix, a test plot was established in a Yellow Newtown Pippin orchard near Watsonville. The Yellow Newtown Pippin is an apple variety especially susceptible to orange tortrix because of the short fruit stem and the tendency for the fruits to touch. The larvae of the orange tortrix usually spin webbing in sheltered places provided by

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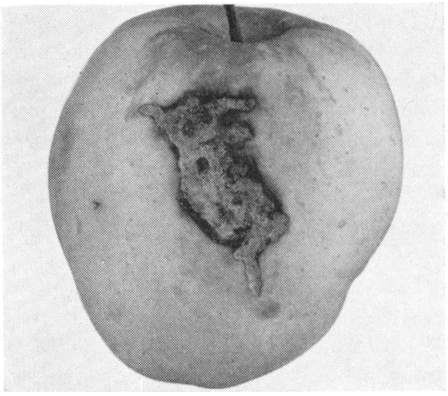

Damage to apple.

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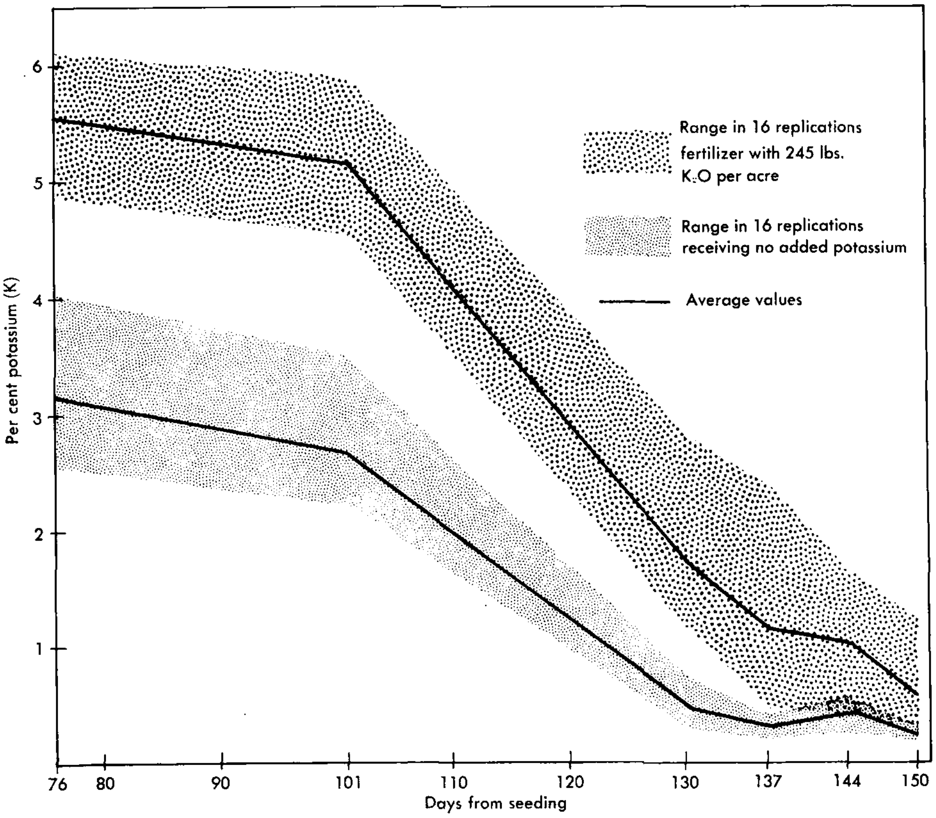
in the test plots suggest some working minimums for potassium.

It appears that at early bloom—75 days—the petioles of the youngest mature leaves should have a minimum of 4.5% potassium, measured on a dry basis. Also, it appears that at 130 days the petioles should have at least 1% potassium.

Apparently the exchangeable potassium in the soil should be present at a minimum of 60 ppm—parts per million—in the surface 12″. As the studies are continued, the minimum levels may be increased.

Deficiency symptoms have been identified on a wide range of soils on the east side of the San Joaquin Valley. However, entire fields seldom show evidence of potassium deficiency. Visible plant symptoms and probable minimums of petiole and soil potassium—as determined by analyses—should indicate need of potassium fertilizer for cotton in some fields in the San Joaquin Valley cotton growing areas.

Relationship of soil and petiole potassium in field fertilizer trials in 1959.



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Forrest Fullmer of the American Potash Institute assisted in the above studies.