

NOTES FROM THE BIOLOGICAL DEPARTMENT, ONTARIO AGRICULTURAL COLLEGE.

THE following notes bearing on horticultural topics are based partly on the past season's observations, and partly on the experiences of previous seasons.

Our correspondence with fruit-growers from various parts of the Province has been unusually heavy this year, and there appears to be a growing demand for more information regarding spraying, and insect and fungous troubles.

FRUIT DISEASES.

It is acknowledged by nearly every fruit-grower that the fungous diseases which are usually so destructive have not been very severe this past season, and have given but little trouble. This happy circumstance has resulted from the peculiar seasonal conditions. The early summer was very dry, and the moist conditions which ordinarily surround the spores blown from one plant to another were absent, and germination became impossible. Mildews on the grape were rare, but in one or two localities the gooseberry mildew was difficult to control. Apple scab was not serious, and leaf-spots were not common.

The dryness of the season, which was so unfavorable for the germination of spores and the development of fungous diseases, produced some peculiar features in *tomatoes*, *pears* and *peaches*. Many of these fruits had peculiar indentations, as if made by the pressure of a strong finger. Sometimes three or four of these were found on single pears and peaches. These indentations were very common on the pear, and no doubt interfered with its sale on the market.

On examination the tissue immediately beneath the indentation was found to be

drier than the remaining tissue, and unlike anything produced by fungi. As the spot increased in size the area of dry tissue also increased, so that the condition was simply one of drying up of tissue in certain localized spots.

In the case of the tomato the disturbed area was very plain, and resembled the early stages of the tomato rot (*Macrosporium*). There was a diseased, sunken, circular spot covered by a tough grey skin, beneath which the pulp was dry. As the area increased in size bacteria gained an entrance and a rotting took place.

It is difficult to state definitely the exact cause which led to such a disturbance, but probably the chief factor was a diminution of moisture supply to the grown fruit at a time when evaporation from the fruit was still active.

FALL ORCHARD CLEANING.

Much can be said in favor of an annual *fall orchard cleaning*, although many of our fruit-growers are indifferent in this matter. Aside from the fact that there is more leisure after the fruit has been gathered than in the rush of our early spring when so many odds and ends must be attended to, there are many urgent and convincing reasons why our orchards should be very carefully cleaned of rubbish and litter during late fall and early winter. Many insects and fungi pass their resting stages during the winter among the grass and fallen leaves. Hedges and fence-corners are favorite hiding places for many destructive insects, and whenever possible these places should be searched, and the collected rubbish burned. If this

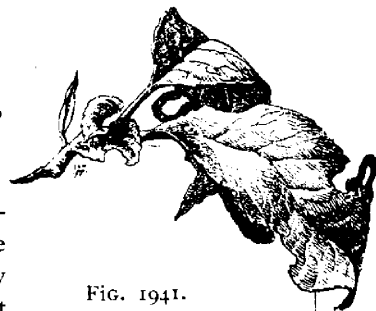


FIG. 1941.
CANKER WORM.