

when J. A. Beal, then of the Portland laboratory, found it heavily infesting willows along the Willamette River. Several years earlier other entomologists had found it in Washington and British Columbia. In 1937 four home owners reported the insect on ornamental willows near Portland. Apparently it is gradually extending its range southward in the Willamette Valley.

Outbreaks of *Galerucella xanthomelaena* (Schr.), the elm leaf beetle, occur in Portland nearly every year. Infestation was exceptionally heavy in 1936, owing to a slackening of control effort the previous year, but was materially reduced in 1937 by an intensive spraying program conducted by the city park bureau.

In September mature grand firs on a country estate near Salem, Oregon, were noted to be heavily infested with *Adelges piceae* (Ratz.). The infestation on these trees is known to have existed since 1932 and is gradually weakening the firs. It causes deformation of the leaf buds and a thinning of the foliage, particularly on the lower branches.

Late in April *Adelges tsugae* Ann. was found to be killing the shaded lower branches of a western hemlock hedge in Portland.

Infestation by the satin moth, *Stilpnotia salicis* (L.), in Washington was light in 1937 in nearly all of the old centers. The introduced parasites *Meteorus versicolor* (Wesm.), *Apanteles solitarius* (Ratz.), and *Compsilura concinnata* (Meig.), are abundantly established and apparently are effectively controlling this pest. A native parasite, *Tachinomyia similis* (Will.), has successfully established itself upon *S. salicis*. Early in July, wilt was noted as a factor of importance in killing nearly full-grown satin moth larvae in Tacoma. Extensive scouting in the Rogue River drainage of southern Oregon failed to reveal the satin moth in that area. *Apanteles solitarius* was recovered in Oregon for the first time, when adults were reared in June from satin moth larvae collected near Gervais.

QUARANTINE REGULATIONS IN RELATION TO EXPORTS

by H. F. Olds

Plant Inspection Office, Entomological Branch,
Canada Department of Agriculture, Vancouver, B. C.

To an agricultural country like Canada, where production exceeds its home consumption by about fifty percent, the value of her export markets cannot be over-estimated, and if we are to hold our present markets and gain new, every effort must be put forth to protect these markets by just as rigid an inspection of all our exports as we would make on imports.

During the past few years this export trade has been gradually increasing. Just to mention a few special lines of exports from British Columbia—during this past year approximately ten thousand rose bushes, twenty-four hundred rhododendron shrubs and over one million bulbous iris were exported. Our fresh fruit exports have also increased. British Columbia produced in apples over five and one-half million

boxes this year, a large percentage of which must find its way to foreign markets. These items mentioned are only a few lines of our agricultural production in this province, and certainly only a small percentage of the total agricultural production of Canada. About half of Canada's population of approximately eleven million derive their livelihood from agriculture in one form or another, and as about fifty percent of our production is exported we can readily see how important it is that the regulations of the importing countries are complied with, not only in quality and attractiveness, but also in freedom from pests and diseases.

With the rapid advancement made in transportation facilities world markets have been made available. For instance, we are shipping fresh apples to Palestine and importing their fresh citrus fruits, so that with this improvement in transportation, plants or plant products may be exported or imported from practically any part of the world, and with the exchange of these products we have increased the possibilities of introducing new pests and diseases.

Our Department has to date summarized the plant legislation of 219 countries (including territorial possessions) in order that the exporter and grower might obtain this information. Today we have 81 countries (26 empire and 55 non-empire) which require an accompanying certificate of health with apples, 75 countries (23 empire and 52 non-empire) requiring certification for vegetables and 120 countries (39 empire and 81 non-empire) requiring certification for potatoes. Apart from these, we inspect and certify all consignments of nursery stock for all countries.

The Canadian Department of Agriculture has become a very vital institution in the agricultural life of Canada. Through the years its responsibilities have been constantly augmented and its activities have become more diversified. Every phase of Canada's agricultural industry is more or less affected by the work of this Department, but to make this work fully effective the importance of having all officers of the Department acquainted with the major activities which are being carried on in the various branches of the service can scarcely be over-estimated if we are to be able to intelligently direct public inquiries into the proper channels.

This paper might not be considered of a strictly entomological nature, but as the pest control work which is being carried on in the province by the entomological staff in the field and our activities are so interlocked and dependent on each other, particularly in relation to exports, I felt that this paper would not be out of place.