

THE STATUS OF THE GLADIOLUS THRIPS IN BRITISH COLUMBIA.

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As a result of the serious damage caused by the gladiolus thrips in eastern Canada and other parts of North America, Regulation No. 10 (Domestic) was passed in March 1932, under the Destructive Insect and Pest Act, prohibiting the importation of gladiolus corms into this Province.

At that time no reports of the presence of this thrips had been recorded for British Columbia, and inspections of commercial plantations by officers of the Dominion Entomological Branch all over the province failed to show its presence. Similar inspections in 1933, again confined to commercial plantations, showed these to be free from thrips.

However, in the late summer of that year, material was brought to Mr. H. F. Olds, at the Vancouver Plant Inspection Office, from private gardens in Vancouver which, on submittal to Dr. J. B. Steinweiden, were determined as *Taeniothrips gladioli* M. and S., now known to be *T. simplex* Morr.

Scouting, performed as a result of this discovery, led to the location of three infested gardens in Vancouver. The sources of the infestations were investigated but without definite results. One party claimed that he had had the corms for many years, while a second had purchased his corms from two commercial growers on Lulu Island, near Vancouver. An inspection of these plantations by Mr. Olds and myself failed to show the presence of any gladiolus thrips. The origin of the outbreak in British Columbia has not been determined.

In 1934, a further outbreak was reported from South Westminster where several dozen gladioli were found to be heavily infested and to be completely spoiled by this pest. This outbreak was traced to a nearby small grower, whose entire stock of several hundred gladioli were entirely destroyed by the thrips.

Later in 1934 another infested commercial plantation was located at Sardis, some sixty miles from Vancouver. Complete destruction of many hundreds of gladioli had again taken place, and it was determined that some trouble had been noticed but not reported in 1933. The source of the infestation was traced to corms received from a private garden in Vancouver during the autumn of 1932. No thrips were found in gardens in the surrounding districts, even when the corms had been purchased from this grower.

In view of these infestations, and the undoubted fact that the thrips occurred in many other small gardens in Vancouver and district that

it was impossible to check up on, the order prohibiting the importation of gladioli into the Province was rescinded in May 1934.

At the request of Mr. A. G. Dustan of the Entomological Branch at Ottawa, and with the consent of the Dominion Entomologist, it was decided to test the ability of this insect to overwinter out of doors in the (often) mild winters of the Pacific slope.

In 1933, therefore, soil emergence cages were placed out in May in two infested gardens in Vancouver. In the first garden, the grower had pulled his gladioli in the autumn and burned them, so the cages were set out over the infested soil of the beds. In the second case, the owner had thrown the infested stalks and corms out onto waste land at the back of his garden, thus providing ideal conditions for our experiments, if not conforming to good garden practice. The cages in this case were placed on the pile of gladiolus refuse. The winter of 1932-33 was a mild winter, a green winter in fact, almost without frost or snow. However, weekly inspections by Mr. Olds and myself failed to obtain any gladiolus thrips from the vials in the cages, and in neither case did any infestation appear on gladioli growing in those or adjacent gardens; so that no overwintering out of doors appeared to have taken place.

In order to duplicate this work, and to make doubly sure, the experiment was repeated in 1934 in the badly infested commercial plantation at Sardis. In this case, the condition for overwintering were even more favourable than those of the previous year in Vancouver. Deep snow covered the ground during the short cold spell experienced, and the earth was at no time frozen during the entire winter. In addition to this, the owner, through illness, did not even dig his infested corms, and the entire lot passed the winter in the soil, in a weedy garden, and appeared as volunteers in the spring of 1934.

Cages were placed out in May, but frequent inspections of both cages and volunteer gladioli failed to show any gladiolus thrips. A second plantation, located about 300 yards distant, remained uninfested both in 1933 and 1934.

It would appear, therefore, that this pest definitely cannot overwinter out of doors in British Columbia, even under the most favourable weather conditions, and this is borne out by the fact recorded by Herrick and Shaw that, although they may overwinter on volunteer gladioli in California, they are killed by a temperature of 37 degrees Fahrenheit.

During the course of this inspection work, many species of thrips were found on gladioli. These were determined by Dr. Steinweiden as *Taeniothrips vulgatissimus* (Hal.), *T. atratus* (Hal.), *Thrips madroni* Moul., *Frankliniella californica* Moul., and *Aeolothrips fasciatus* (Linn). They all appeared to be pollen feeders and harmless, except *T. atratus*. This species was found on several occasions abrading the epidermis of the petals of lilac-coloured varieties, and to some extent damaging their beauty.