

History and Incidence

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THE first observations on scale insects in New Zealand were made by Maskell in 1887 (1). He described their taxonomy, life history, and their association with sooty mould. He recorded 6 species which occurred on manuka (*Leptospermum scoparium*), but not the species of *Eriococcus* which is now associated with "blight."

Although "blight" attacks both manuka and kanuka (*Leptospermum ericoides*), only manuka is susceptible and dies.

FIRST RECORDS OF MANUKA BLIGHT

In December 1942 the Plant Diseases Division of the Department of Scientific and Industrial Research identified specimens of infected manuka plants from South Canterbury as being infested with a species of *Eriococcus*.

Later a farmer stated that it had started on his property in South Canterbury at about that time.

An article on "manuka blight" was written for "The New Zealand Free Lance" in July 1946 (2). Further articles on the subject occurred in other periodicals during the next 2 years (3).

This created so much interest that by 1948 the sale of "manuka blight" was being advertised widely and there were numerous requests for infected material from all parts of New Zealand.

SURVEY OF MANUKA BLIGHT

As a result of this publicity, in 1948 the Department of Agriculture surveyed the distribution of the "blight" (4). At the same time the Entomology Division of the Department of Scientific and Industrial Research, working in collaboration with the Department of Agriculture, identified specimens forwarded and studied the nature and life history of the scale insect *Eriococcus* associated with the death of manuka (5).

"Manuka blight" appeared to be confined to Canterbury, from the Waitaki River in the south to about Amberley and the Okuku Range in the north. It occurred along the foothills up to an altitude of 1500ft. on the plains, and on parts of Banks Peninsula. Almost wherever manuka occurred, dead and dying manuka plants were to be seen. Trees up to 10ft. high have been killed, but the most susceptible are those 3ft. high.

The occurrence of "blight" does not seem to be related to particular soil or climatic conditions, since infestations were found on light, stony, wind-swept areas of the plains and on heavy, wet, clay land of the foothills.

No "blight" was found in the North Island, but according to report introduction had been successful in one area. Although this could not be inspected at the time, it was later confirmed.

NORTH ISLAND INFESTATIONS

The first infestation in the North Island was established near Wairoa in 1945. Some of the affected manuka was brought from the South Island by individual farmers on their own initiative, and some was probably sent up as a result of a vigorous sales campaign in which the buyer was given infected plants and ample soil round them at a cost of £2 for 6 plants. From these infestations the disease has spread within the district both naturally and artificially by transport of affected material to new areas.

PRESENT POSITION

In 1948, apart from the Wairoa area, the "blight" was confined to Canterbury.

To-day, in 1953, it has spread extensively to many districts in both islands. In the South Island it extends along the foothills from the Hunters Hills in the south to Kaikoura in the north; to all isolated stands on the Canterbury Plains and Banks Peninsula, up the valleys towards the main divide near Lake Heron, in the Waimakariri River basin, and in the Hurunui and Waiau River valleys. In places it occurs at altitudes of over 2500ft. In addition, there are possible records from Nelson, Blenheim and Greenfield near Balclutha.

In the North Island in the Auckland Province there are infestations recorded from the Hokianga Harbour, south of Kaikohe, Coromandel Peninsula, Rangiwhia, the coastal area from Waipukurau to Gisborne, the Wairarapa, Wanganui, Raetihi, Taumarunui, Eltham and New Plymouth.

Recently a number of introductions have been established in the Wairarapa at Tinui, Bideford, Alfredton, Te Wharau, Taueru, Hinakuru, Whareama, Ngaumu and Stronvar.

Most of the North Island infestations have been established from material obtained from Wairoa, but some have originated from infested plants air-freighted from the South Island.

Once "blight" has been established in an area, there is evidence to suggest that spread occurs by wind and/or by birds. For example, in Wairoa "blight" was liberated in 1945; by 1948 it had spread to 5 acres and by 1952 to 300,000 acres.

In South Island tussock grassland areas isolated patches of manuka some miles from centres of infestation have become infested and killed with "blight."

CONCLUSION

In conclusion, "blight" is distributed throughout the North Island and the eastern side of the South Island.

From South Canterbury, where it was originally reported in 1942, it has extended rapidly.

In the Canterbury district much of the spread has been natural, whereas in the North Island and other parts of the South Island the spread of "blight" has been artificially assisted by transfer of infested material.

ACKNOWLEDGMENTS

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References

1. W. M. Maskell, 1887—"An Account of New Zealand Scale Insects." Government Printer, Wellington.
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3. "The Weekly News," 9 June 1948 and correspondents in subsequent issues.
4. T. G. Sewell, 1949—"Manuka Blight Survey." N.Z. Journal of Agriculture, Vol. 79, No. 2, p. 101.
5. J. M. Hoy, 1949—"Control of Manuka by Blight." N.Z. Journal of Agriculture, Vol. 79, No. 4, p. 321.