

HERBICIDE USE AND THE BEE FLORA OF TRINIDAD

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The most obvious disadvantage to beekeepers of the use of pesticides is the unintentional poisoning of foraging bees by insecticides. Another unfavourable result, not as well-documented, of the use of these chemicals is the reduction in bee forage that comes with the removal of attractive sources of nectar from the land.

Weeds comprise a large part of Trinidad's bee flora. This however is not fully realised. Williams *et al* (1947), for instance, included only two weeds, **Mimosa pudica** and **Bidens pilosa**, in their list of bee plants. Laurence (1972 a & b) has added, **Lantana camara**, **Priva lappulacea**, **Commelina elegans** and **Sida acuta** to these already acknowledged bee plants. But the number of weed species that are regularly visited by honey bees is far in excess of six.

Most of the weed species attractive to honey bees are reliable sources of nectar and pollen during the rainy season when most tree species of the bee flora are not in flower; and this enhances their value as bee plants. It is a happy circumstance when the seasonal loss of wild species of bee plants consequent upon the exercise of good agricultural practice, is made good by the cultivation of nectar-yielding plants such as sorrel and pigeon pea. However the nectar yields of some crops do not compensate for the loss of wild species and when herbicide use is continued over a number of years and the complex of weeds growing in an area is changed, the loss may not be merely seasonal. This is illustrated in the consequence of the use of herbicides in sugarcane cultivation as a routine cultural practice over the 20-year period covering the years 1951 to 1970. The result of this has been the complete elimination of four weed species of Trinidad's bee flora from a large part of the sugarcane-growing area of the country. Goberdhan (1971) has listed 19 weed species which were on the list of Blackburn *et al* (1951) of "weeds occurring in Trinidad sugarcane fields", but which were absent in 1970. Included in Goberdhan's list are four bee plants — **Commelina elegans**, **Bidens pilosa**, **Leonurus sibiricus** and **Stachytarpheta jamaicensis**. These losses to the bee flora of the sugarcane fields are partly compensated for by the appearance, among the 14 weed species present in 1970 but not in 1951, of **Cordia curassavica**, a species mentioned by Souza Novelo (1940) as one of the bee plants of Yucatan.

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