

ABSTRACT

Myiasis Flies In Trinidad.

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This thesis is an ecological study of the primary screwworm Cochliomyia hominivorax (Coquerel) (Diptera: Calliphoridae); it also examines the relationship between this primary myiasis producing fly and the secondary myiasis producing flies Cochliomyia macellaria (Fabricius) and Sarcophaga plinthopyga (Wiedemann).

The primary screwworm poses an economic threat to the wildlife and livestock industries. Animals struck by gravid females exhibit anorectic effects, and may even die, usually as a result of hyperinfestations.

Data were obtained from using wind oriented traps (baited with Swormlure 4) and case reports on sentinel animals, pets and livestock from various parts of the island.

The primary screwworms and flesh flies occurred in all eight counties of the island (4,800 km²). The

secondary screwworms were concentrated in the southern, wooded, coastal areas.

A statistically significant correlation between the numbers of primary screwworm flies and the numbers of secondary myiasis producing flies at a site on the southwestern peninsula, close to Venezuela suggests that the wildlife are being used as hosts by all three flies. There was no correlation between any of the numbers of the three species of flies or the numbers of primary myiasis cases and the numbers of livestock.

Generally, the primary screwworm occurred with a greater frequency in the dry season than in the wet. In the drier dewooded, populated, western counties of Victoria and St. George, the seasonal occurrence was almost equal.

Dogs were the most common (domestic) hosts of the primary screwworm; other hosts were sheep, dairy cattle, pigs, cats, horses and rabbits. A large percentage of wounds on dogs resulted from bites, probably during dogfights, and occurred mainly on the head, trunk and legs.

An integrated pest management control program should

be initiated before expanding the livestock industry. The Screwworm Adult Suppression System could be employed, and then followed by the Sterile Insect Technique.

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The benefits of an integrated pest management control program greatly outbalance the cost.

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