

CAB Direct Abstract

Distribution and Control of Mosquitoes in Rice Fields in Stanislaus County, California.

MARKOS, B. G.; Journal of the National Malaria Society, 1951, Sept, 10, 3, pp 233-47, 9 figs., 10 ref.

Rice fields, extensive bodies of shallow, warm water with relatively dense vegetation, are prolific sources of mosquitoes. The problem is complicated by mosquito breeding in associated irrigation channels, drainage ditches, seepages and roadside pools. In the Sacramento and San Joaquín Valleys of California the rice fields are flooded for 90 to 140 days between May and September. In this area, in addition to the possibility of malaria outbreaks, epidemics of St. Louis encephalitis and Western equine encephalomyelitis have occurred. The respective vectors, *Anopheles maculipennis freeborni* and *Culex tarsalis*, breed in rice fields.

This paper records the entomological study of sections of rice fields to determine density of breeding of various mosquitoes, their distribution of larvae over the areas of water surface, and the effect of aerial spraying of insecticides. In graph form are recorded the weekly density of larvae and pupae along the low banks between fields and in the centre of fields. It was found that the centres were as productive as the edges, so that control was only possible from the air. DDT and DDD aqueous emulsions applied at the rate of 0-3 pound per acre gave excellent control for one to two weeks. There were three well defined peaks of density of mosquitoes. Firstly the *Aedes* group, *Aedes dorsal*, *Aedes nigromaculis*, and *Aedes vexans*, appeared immediately after flooding and then disappeared. Secondly, in late June and early July *C. tarsalis* reached its peak, and thirdly *Anopheles m. freeborni* reached its peak in August and September. It was observed that *Culex* and *Anopheles* larvae made their initial appearance shortly after the rice had emerged and stood erect, the average height of the rice then being between 15 and 18 inches. R. Ford Tredre.

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