

Section II  
Foliage and Seed-feeding and Mining Insects

CARROT SEED POLLINATOR SURVEY  
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Carrots grown for seed rely primarily on insects to accomplish cross-pollination. Because of ease of management, honey bees have been the pollinator of choice. However, in fields treated with aldicarb for lygus bug control, honey bees are noticeably absent. These fields often set reasonably good crops. This study was undertaken to determine what insect species may be responsible for carrot seed pollination in the absence of honey bees.

Open-pollinated, Temik treated, carrot seed fields in the Quincy, WA area were observed in 1985 and 1986 for arthropods that may be pollinating carrots. Species were observed in the field for pollinating behavior and collections were obtained with sweep nets to determine their relative abundance as well as other characteristics. The relative size and hairiness of a species as well as its behavior were considered factors of pollination efficiency. Pollination effectiveness was considered a function of numbers X pollination efficiency.

Results

A large variety of species were collected with the most important members belonging to the dipterous families, including Anthomyiidae and Syrphidae. There were very few hymenopterous species observed or collected, although they are considered the most efficient pollinators.

Carrot seed yield may be improved by preserving or augmenting the populations of wild pollinators or making conditions more favorable for honey bees as well as other hymenopterous species.