

SEASONAL OCCURRENCE AND WITHIN FIELD DISTRIBUTION OF PEA APHIDS  
IN WESTERN WASHINGTON

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Each week during June and July of 1982, aphid populations were estimated in unsprayed commercial pea fields that were starting to flower. The percentage of infested plant terminals was used as a basis for estimating aphid populations and a total of 179 fields was examined during the 8-week season. Aphid populations were absent to low in early season peas and increased progressively in mid- and late-season pea plantings. Average infestations ranged from 0.6 aphids/plant for fields blooming in early June to 7.3 aphids/plant for fields that flowered in late July. However, for any given time of the season, between field populations varied considerably and even towards the end of the season there were some fields that harbored very low numbers of aphids. Although no economic injury levels or economic damage thresholds have been established for the pea aphid on green peas in western Washington, it is obvious that the current practice of treating all fields is unjustified. Conversely, the routine procedure of delaying insecticide treatment until bloom time may result in loss of yield and product quality in some fields where aphid populations reach high numbers prior to bloom.

Within field distribution of pea aphids was determined to provide information for designing a practical sampling protocol. Nine rectangular fields were each divided into a 4 x 4 grid containing 16 areas equal in size. Per plant aphid densities were estimated by the tip sampling method in each area and the % of the total field infestation within each of the 16 blocks was calculated. Aphids generally occurred throughout all blocks of individual fields but populations were higher in the border areas. The greatest numbers usually occurred in the southwest (windward) sectors of the field. The results suggested that for treatment decision-making purposes fields should be sampled along their south or west edge.