period started in mid- to late-June and increased up to the beginning of hull split on the new-crop almonds in about mid-July.

At this point the egg traps became less effective as a monitoring device, apparently because splitting almond hulls produced attractive odors, so that the nuts competed with egg traps as oviposition sites. The traps showed continued egg laying by female NOW after drying of hulls and harvest in August and September. At this time of year, eggs are laid on residual or mummy nuts in the trees to produce the overwintering (third) generation of navel orangeworm that will emerge the following spring.

Oviposition by moths from the overwintered generation extended through a considerable period—from March 20 to June 5, 1974, and from April 24 to June 12, 1975. Because of this normal spring activity, timing chemical sprays to control navel orangeworm is difficult. Research efforts are currently being directed toward timing chemical applications to the beginning of significant egg hatch, as indicated by the traps, rather than to the peak of egg laying, which may occur after many eggs have already hatched. Age of eggs and egg hatch under orchard conditions are readily determined by removing the bait and then isolating within the orchard several traps with newly laid eggs.

Some specific uses of the trap to date include the timing of insecticidal sprays based on observed egg laying and egg hatch, evaluation of orchard sanitation programs for NOW control, and improved methods for studying the biology of navel orangeworm under field conditions. Experience with these traps in almonds during the 1974-76 seasons indicates that they can be used to time chemical applications accurately. It should also be possible to use them as a monitoring device for navel orangeworm in other host crops, such as walnuts and pistachios.

Richard E. Rice, Associate Entomologist, and Lee L. Sadler, Staff Research Associate, Department of Entomology, University of California, Davis, are both located at the San Joaquin Valley Agricultural Research and Extension Center, Parlier. This research was supported by a grant from the California Almond Board. The cooperation of Clarence Downing and Clyde Perdue, and of L.D. Properties, Caruthers, California, is gratefully acknowledged.

22 CALIFORNIA AGRICULTURE, MARCH 1977