

Pome Fruits—Biology

A Lunar Influence on Pheromone-Baited Trap Captures of Codling Moth

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Ten years of daily sex pheromone-baited trap capture data for the codling moth, *Cydia pomonella* (L.), were analyzed for lunar periodicity. Spectral analysis detected a sine wave periodicity of approximately 30 days in 6 of 10 annual spectra and at a significance level of $P < 0.01$ in a combined 10-year spectrum of the codling moth data. Autoregression analysis failed to detect precise periodicity and showed that these trap captures are independent after 3 days.

Frequency distributions of generational emergences over 10 years showed that 80% occurred within 3 days of either a new or full moon. First generation emergence was found to change according to coincidence of the lunar periodicity to annual constraints. A hypothetical model of this was developed and its potential accuracy compared with that of published degree-day models.