

## II. Pome Fruits

### a. Biology

*Cydia pomonella* (L.), codling moth, on apple.

Janet Conlee  
Ecogen Inc.  
P.O. Box 158  
Fromberg, Mt. 59029

#### ABSTRACT

#### **A lunar influence on pheromone-baited trap captures of codling moth.**

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.