An evaluation of lure technologies for monitoring codling moth in a variety of pheromone environments

Mike Doerr, Betsy Stutzman, and Jay Brunner
Washington State University
Tree Fruit Research and Extension Center

Introduction

Pheromone-baited traps are routinely used to determine the time of emergence of codling moth (CM), track seasonal phenology and timing of peak activity. As such applications of synthetic pheromones in modeling disruption (MD) programs change the relative attractiveness of pheromone lures (Figure 1).

High-lifetime lures (10X) represent an improvement to 1X septum in MD orchards, especially at high rates (i.e., 400 dispensers/acre). CM monitoring in MD orchards is not precise due to many sources of variation. Lure types, each with a different level of attractiveness, are being used to monitor CM.

Reduced rates and alternative delivery systems (Scentry NoMate Fibers, Pherobase CM pheromone) can change the relative attractiveness of pheromone lures. Lure comparisons under these conditions have been limited.

As we move toward greater reliance on narrow-spectrum materials, a more precise understanding of trapping systems will be required to achieve control.

Red septa lures

Red septa lures, available from most companies, release a high level of pheromone for a short time.

- Attractive for 3 weeks in spring and 2 weeks in summer
- Pheromone treatments used in this poster
  - 300-400 hand-applied dispensers/acre (n=46)
  - 200-300 hand-applied dispensers/acre (n=25)
  - 200 gms Scentry NoMate Fibers/acre (n=15)
  - 10 gms AI Suterra CM-F sprayable pheromone/acre (n=17)
  - No pheromone treatment (n=18)

- 10X lures appropriate for most rates of hand applied dispensers. 1X septa may be best choice for alternate pheromone delivery technologies

Fiber Lures

Scentry, Inc. developed a variety of long-life lures utilizing their NoMate CM fiber technology.

• Lure release controlled by number of fiber on tape
  - We tested 4, 10, and 50 fibers in 400 dtas and untreated orchards
  - Lures last for an entire generation (at least 60 days)

At 400 dtas, the NoMate Fiber lures were not as attractive as the 10X red septa.

The 4 or 10 NoMate Fiber lures were equal to or more attractive than the 1X red septa in a non-pheromone treated orchard.

Long-Life 10X Lures

Suterra CM-F, sprayable CM pheromone, was applied at 10 gm Alilacene

- 10X lures (long-life and red septa) were not suitable for monitoring sprayable pheromone orchards. 1X red septa and DA Lure were equally attractive.

1X red septa, SuperLure, and DA Lures were used to monitor CM in orchards treated with Scentry NoMate Fibers.

1X lures or DA Lures appear to be more suited for monitoring NoMate Fiber-treated orchards than the long-life 10X SuperLure.