

Mating Disruption/SIR

OBLR and Codling Moth Areawide Mating Disruption in Brewster, WA

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The history of Areawide IPM programs in Brewster has included impetus from industry, growers and, recently, the public sector. Areawide mating disruption of codling moth has been used since 1993 in Brewster by the initiative of growers. Although the acreage under mating disruption was large (>1,000 acres), only a small percentage of growers used the technology. Mating disruption continued to be adopted by individuals, and acreage under the technology continued to grow. In 1997, the Brewster Areawide Management project (BAM) was formed and funded for one year under the USDA regional Areawide IPM Project. BAM is a nonprofit organization operated by volunteer growers and fieldmen to organize the growers on Brewster Flat and provide standardized trap information for all those participating. The organization continued in 1998 supported by a per-acre fee. Including BAM and a few large, privately managed projects sharing information, Brewster has about 3,000 acres under codling moth mating disruption, most using half rate. This year saw another pioneering development. B-DAM (Brewster Dual Areawide Management Project) was initiated by Dr. John Dunley (WSU) and Dr. Alan Knight (USDA-ARS). This project is about 500 acres and uses both codling moth and obliquebanded leafroller pheromone to manage pests. Similar privately funded projects cover an additional 700 acres. This paper will report general information on combined results of the various properties using different mating disruption products.

The Brewster area has not had a widespread high population of codling moth. Most growers have applied one or two covers and had low fruit injury. However, since 1991, OBLR has continued to increase and growers still apply more insecticides for OBLR than for CM. Growers in Brewster applied products for codling moth at half rate (200 ties/acre) in most blocks in both 1997 and 1998. OBLR mating disruption products were applied at half rate to full rate (200-400 ties/acre). Codling moth was monitored with traps placed every 5-10 acres. OBLR flight was monitored with traps every 10-100 acres in areas with no OBLR mating disruption. In mating disruption areas, standard lures were used in traps placed every 5-10 acres. At harvest bins were checked for the presence of codling moth or OBLR damaged fruit. Sampling covered about 70% of the blocks in 1997 and >95% of the blocks in 1998. In 1998 1-2 bins per acre were sampled for each variety in each block. Growers shared information on the products used and number of sprays applied for codling moth and OBLR in 1997 and 1998.

In the 1998 season, cover sprays were reduced to less than one per block while "hot" blocks, those with greater than 0.1% codling moth fruit injury, were reduced to fewer than 10%. Chlorpyrifos applied for OBLR, not Azinphosmethyl, accounted for the majority of OP sprays used in 1998. Growers using OBLR mating disruption reduced insecticide sprays while greatly reducing OBLR injury to fruit. Those not using OBLR mating disruption increased non-OP

sprays and also achieved a reduction in fruit injury. Based on estimated cost of pesticides and pheromone products, growers who did not try OBLR MD in 1998 shifted more of their budget to OBLR insecticides. Those who used OBLR MD reduced their insecticide budget but not enough to offset the cost of pheromone products. This is typical in the first year of adopting MD technology.