AZM ALTERNATIVES FOR CODLING MOTH CONTROL

The EPA phase-out of AZM (azinphos-methyl, Guthion) is in its third year, which means growers are only allowed 2 pounds of active ingredient per acre in apple. This 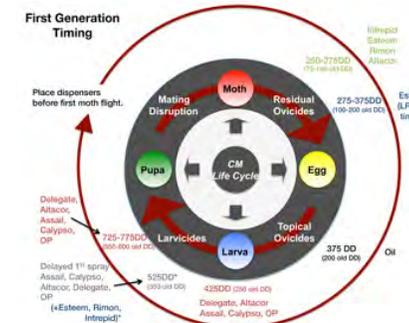limit in active ingredient means that growers will be restricted to two effective applications in 2010. Next year only 1.5 pounds of active ingredient is allowed, which means only one application of a high labeled rate.

So, if you have been putting off the inevitable it is time to adopt OP-alternative insecticides into your pest control program.

OP-ALTERNATIVE CM PROGRAMS

There is not one codling moth program that will work in all situations. Variances in locations, pest populations, and pest pressures mean that growers have to design programs for their specific situations. Researchers have developed use patterns for OP-alternative insecticides that growers have found work well for codling moth control. The key to managing codling moth with these strategies is to choose controls that target specific life stages so that the codling moth life cycle is disrupted as often as possible. In most cases, a program based on mating disruption and a combination of ovicidal and larvicidal insecticides can control codling moth without the use of organophosphate insecticides. Over time, many growers have found that fewer insecticide applications are required to achieve the clean crop that is desired.

SPRING CM CONTROL

Pheromone traps and mating disruption dispensers should be placed in the orchard before 125 degree-days (prior to first bloom). Pheromone dispensers disrupt codling moth mating and result in fewer eggs in the orchard. Pheromone traps capture male moths and allow growers to determine and track the size and location of codling moth populations that may need insecticide treatments. The first insecticide controls for codling moth can be applied in the petal fall period. This represents an opportunity to target codling moth eggs. Esteem, Intrepid, Rimon, and Altacor are OP-alternative insecticides that work as ovicides – that is, they kill codling moth eggs - at the same time they provide control of overwintering leafroller larvae. Therefore, you have the opportunity to target two pests with one insecticide application.

Recent research with mating disruption products indicates that the number of point sources is more important than the amount of pheromone that each point source (dispenser) emits. Rates of hand applied dispensers (Isomate C Plus, CideTrak, CheckMate, and NoMate)

CODLING MOTH MATING DISRUPTION

vary from 200-400 dispensers per acre. Under lower pest pressure the number of dispensers may be reduced to 300 or even 200 dispensers per acre, though fewer than 200 dispensers per acre is not be recommended. Meso dispensers (large rings or combinations of hand applied dispensers) and Puffers require fewer dispensers per acre but may still be effective because of the large pheromone plume that emanates from dispensers through the orchard. Meso dispensers and Puffers are still being researched in Washington so specific recommendations on their use is not available. If growers choose to use these products, they should conduct their own comparisons to determine the efficacy of the products, and closely follow manufacturer recommendations. Used appropriately, mating disruption will help to drive down codling moth populations over time, which in turn can result in fewer pesticide applications. Rates of mating disruption should be reduced only after the number of supplemental insecticide applications has been minimized.

Summer CM Control

If an ovicide is used in the petal fall period, the first larvicide can be delayed until 525 (350 for old model) degree days (DD) to an optimized timing. This timing will target the period of peak egg hatch and optimize the spray residues from the larvicide that is applied. Larvicide applications should be repeated at 14-17 day intervals as necessary. Several OP-alternative larvicide insecticides – Altacor, Delegate, Assail, and Calypso are among the most efficacious used at this time. Visual monitoring for fruit injury and trap catch should be used to determine areas that will need additional sprays in the summer to provide protection until harvest. Often, good first generation control reduces or eliminates the need for additional summer sprays, but this decision should be made based on a good monitoring program. To avoid the development of insecticide resistance, do not use products from the same insecticide class against subsequent generations. The insecticide class can be identified by the group number that is shown on the product label. An insecticide class used against insects during the first half of the year (prior to July 4) should not be used again in the summer (after July 4). Choose a product with a different group number for use after July 4.

Secondary Pest Considerations

Sometimes when choosing a product for codling moth control, the potential effects on secondary pests may be a more important consideration than the codling moth efficacy of the product. Assail, Calypso, Rimon, and Delegate may have negative effects on predatory mites when used at typical codling moth application timings and should be used sparingly if mites are a potential problem. Delegate and Rimon may also cause flare ups of wooly apple aphid in some situations. Altacor and Intrepid are less likely to cause negative effects on beneficial insects. Programs that combine the use of these two products (i.e. Intrepid applied at petal fall followed by Altacor at 525 (350) DD and 14 days later) can provide first generation control of codling moth in most situations without disrupting activity of beneficials.

Please see the previous issue of the newsletter (V3I2, Mar. 15) on the changes to the codling moth model for clarity on degree day values associated with key control timings.

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