

Chemical Control/New Products

Cherry Fruit Fly Control Trial

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Overview

The advent of the Food Quality Protection Act has brought special concern to sweet cherry growers, as the two products most commonly used to control cherry fruit fly, azinphosmethyl and carbaryl, are receiving special regulatory attention during the evaluation process, due to their very common usage on high-profile crops. It is likely that even adjustments in pre-harvest interval would greatly restrict the usefulness of these products for pest control in sweet cherries, as the target pest develops during the 4 weeks leading up to harvest, and the number of emerged adults peaks during the harvest period. It is vital that alternative, effective, and environmentally acceptable cherry fruit fly control materials and methods be developed soon.

Cherry fruit fly research has been difficult over the years, as pest numbers are so low that few, if any, flies can be found in commercial blocks. The few trials that occur are usually carried out on single, highly infested "backyard" sweet cherry trees. Properly replicated efficacy trials have not been done in the region for many years.

Trial Overview

Previous reports (by Dr. Robert van Steenwyck, U. of Cal.) of the effective control of walnut husk fly by spinosad (Success) encouraged us to run a preliminary spinosad efficacy trial on cherry fruit fly in Wenatchee in 1997. A previously highly infested cherry tree was maintained completely free of infestation by weekly applications of 2 ounces Success 2L per 100 gallons of water, applied to "drip" on tree fruit and foliage. This led to this greatly expanded cooperative trial in the Wenatchee area in 1998.

Site

The 1998 trial was carried out in a block of 16 mature highly infested sweet cherry trees that had been documented by the Chelan/Douglas County Agricultural Pest Board to be highly infested by CFF over the past several seasons.

Application

All products were applied with a high-pressure hand-gun, in a volume of water sufficient to fully wet the test tree foliage. Sprays were initiated four days after the first CFF was trapped, and continued weekly until the cherries were sampled for larval infestation. The sampling took place about a week later than the usual harvest stage to assure maximum potential for infestation and larval development. Due to this, six weekly sprays were applied, rather than the more usual five. After sampling, the entire block was treated with dimethoate to reduce the potential for 1999 CFF infestation.

Treatments

Treatment 1. The industry "standard" control materials. The first and third weekly sprays were azinphosmethyl at 1/2 lb/100 gal of 50% WP, the second, fourth, fifth and sixth weekly sprays were carbaryl (Sevin XLR) at 16 ounces per 100 gallons.

Treatment 2. JMS Stylet Oil, 1% suspension, applied weekly.

Treatment 3. 2 ounces per 100 gallon rate of spinosad (Success), as provided by Dow Agrosciences, applied on 10 day intervals (a total of four applications prior to sampling).

Treatment 4. 2 ounces per 100 gallon rate of spinosad (Success), as provided by Dow Agrosciences, applied on 7 day intervals (a total of five applications prior to sampling).

Treatment 5. Unsprayed control.

Potential for Fruit Infestation

Local Pest Board records indicate the test block has been infested due to inadequate control efforts for the past several seasons. A trap placed in the block in 1997 caught over 100 adults, which is considered an indicator of serious infestation.

Red sphere CFF traps baited with ammonium carbonate were placed throughout the test block to assure that the pest was present during the testing period. It is expected that effective spray applications greatly reduce mature, egg laying adult presence within the control area, but may not prevent the presence and capture of immature, recently emerged adults. A total of 114 adult cherry fruit fly were captured within the plot area during the seven week test period, 81 of which were caught on the untreated trees.

Results will be presented at the Western Orchard Pest and Disease Management Conference.