

4. Chemical Control / New Products

Management of Codling Moth (Lepidoptera: Tortricidae) in Apple with Overhead Watering

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The effects of overhead watering on the management of codling moth, *Cydia pomonella* L. were examined during 1994-95. Studies were conducted in small replicated plots of apple, *Malus domestica* (Borkham), in Yakima, WA. Treatments varied with regard to the timing and length of watering, the amount of water applied, and whether watering was continuous or cycled. Water treatments reduced fruit injury from codling moth by 60 - 90% versus the untreated control. Moth flight, oviposition, and egg and larval survivorship were all significantly reduced with watering compared with the untreated control in replicated field assays. The major impacts of these water treatments on apple trees were the accumulation of mineral deposits and a reduction in fruit size in 1994. Watering only during the evening appeared to minimize these effects. Apple scab, *Venturia inaequalis* (Cooke), increased during the second year of this study, but infection levels did not vary among treatments in either year. During 1997, four 0.7 acre apple blocks were watered for 75 d with the fog system running from 6PM to 6AM each day. Fruit injury by codling moth was reduced 60% compared with similar unwatered check plots. Fruit quality was not affected by the overhead watering, except in two blocks where the grower over-irrigated.