Biology/Phenology

Development and Validation of a Phenology Model for Predicting Cherry Fruit Fly Emergence and Oviposition in the Mid-Columbia Area

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Keywords: trapping, distributed time-delay model, degree-day prediction, egg-laying, western cherry fruit fly, cherry

Abstract: The western cherry fruit fly (CFF) is a major pest of cherries. Because of a zero 'tolerance' for damage detecting CFF emergence is critical for successful control. Due to low CFF populations in the major cherry-growing districts in the Mid-Columbia, emergence cannot be detected reliably with traps. Phenology models developed elsewhere have not proven accurate enough for predicting emergence and oviposition. To improve predictions of CFF emergence, historical observations on first emergence, rainfall, and temperature were analyzed. A phenology model of CFF emergence and oviposition was developed using the distributed time-delay concept. The model was validated with trap catch records from several years and accurately predicted CFF emergence in 2004 in The Dalles and Hood River. In 2005, cherry growers in The Dalles will be able to obtain site-specific CFF model predictions over the Internet by accessing the IFP*net* website and selecting weather station sites closest to specific orchard locations.