Codling Moth Control with Old and New Insecticides: The Continuing Search for the Next Guthion

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Abstract: For the last 50 years the organophosphate insecticide Guthion (azinphosmethyl) has been the principal control tool against codling moth and has provided unprecedented control. Although resistance development has reduced its usefulness for codling moth control in some fruit-growing regions, Guthion has remained an important insecticide for codling moth control worldwide. However, in recent years concerns about worker exposure and regulatory restrictions have become a more serious threat than resistance development to the continued use of Guthion in tree fruits. Efforts to develop alternatives to Guthion for codling moth control have been under way for the last 20 years beginning with pyrethroid insecticides, various insect growth regulators (IGRs) such as Dimilin (diflubenzuron) and Intrepid (methoxyfenozide), and more recently neonicotinyl insecticides such as Assail (acetamiprid) and Calypso (thiacloprid) and codling moth virus formulations. Research on Guthion alternatives conducted at the Mid-Columbia Agricultural Research and Extension Center over the last 20 years will be reviewed in terms of effectiveness against codling moth, spectrum of activity against other pests, IPM compatibility, impact on beneficials and potential threat to water quality and fish.