

Integrated Pest Management: Rynaxypyr® active and Cyazypyr® active



Integrated Pest Management (IPM) With Single Active Ingredient Insecticides

If you're tempted to replace your single active ingredient (AI) products, such as those containing Rynaxypyr® active (Altacor® insect control, Coragen® insect control and Prevathon® insect control) or Cyazypyr® active (Exirel® insect control and Verimark® insect control), with less expensive premix products of similar chemistries, you may want to think again. Many growers discover too late the outsized hidden costs of saving money up front with premix alternatives: more applications, more money, reduced flexibility, mite flares and pest resistance in the long run.

Good integrated pest management (IPM) principles should always drive product choice so you benefit from applying the right product to the target pest at the right timing. Single AI products from IRAC Group 28 mode of action (MOA) classification can help you manage your fields easily, economically and with the scientific backing of IPM best practices.

Quick Facts

- **Disruption of beneficial insects.** Taking out natural predators and parasitoids sets the stage for costly mite, aphid and scale infestations down the line.
- **Risk to pollinators.** Unlike most premixes that contain other IRAC MOA chemistries, the single diamide AI contained in Rynaxypyr active and Cyazypyr active insect control products has been shown to have minimal impact on key pollinators once residues dry!¹
- **Resistance development.** Premixes that have active ingredients with different knockdown and residual control characteristics can result in only one component doing the heavy lifting, while the other is exposing pests to sub-lethal doses that allow only resistant pests to survive, speeding up the development of resistance. Furthermore, if resistance is already suspected to occur in one of the components in a premix, the premix will be less effective. To avoid resistance and reserve the right chemistry for the right timing of the season, use single AI products and rotate MOAs.
- **Pesticide residues.** Premix products result in additional AI residues as key export markets are placing increased pressure on growers to reduce or eliminate detectable residues.
- **Additional safety considerations.** Premix products that contain the diamide Group 28 chlorantraniliprole or cyantraniliprole usually require more careful handling, additional personal protective equipment, longer re-entry intervals (REI) and/or extended preharvest intervals (PHI).

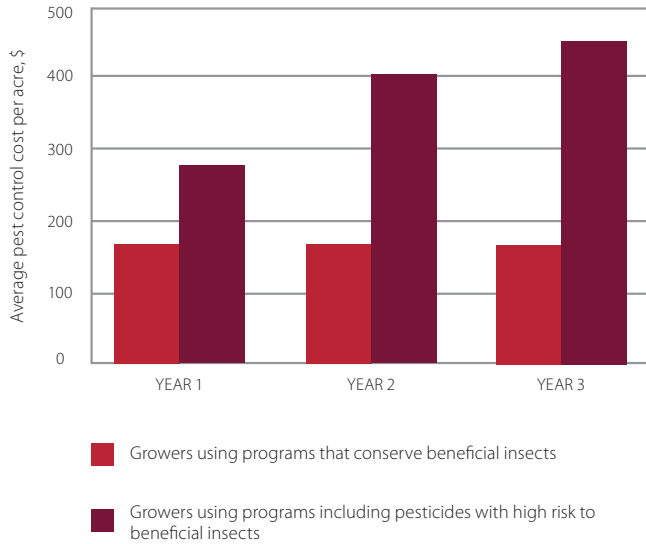
¹Refer to label for specific use directions to protect bees and other insect pollinators.

Financial Benefits of Conserving Beneficial Insects

A study by Washington State University illustrates the benefits of choosing insect control products that are compatible with beneficial insects.

Apple Pest Control Costs

Average pest control costs of Washington apple growers using programs that conserve beneficial insects (Group A) vs. those using programs that include pesticides with high risk to beneficial insects (Group B)



Source: Gallardo, R.K. et al. 2016. Capturing the Economic Value of Biological Control in Western Tree Fruit. *Biological Control*. 102: 93-100.



INSECT RESISTANCE MANAGEMENT PRINCIPLES	
RIGHT CHEMISTRY	Select highly effective products. Avoid broad-spectrum and premix insecticides when Als do not fit pests present.
RIGHT RATE	Use the most effective labeled rate, avoiding underdosing. Calibrate equipment and obtain thorough coverage. Follow local crop advisor and university recommendations.
RIGHT TIMING	Target early, vulnerable pest life stages. Do not expose multiple consecutive insect generations. Adhere to maximum number of applications per season.
RIGHT ROTATION	Rotate MOA using a treatment window that targets each generation with a single MOA and rotate to an alternative MOA for the subsequent treatment window/generation.
GOOD IPM	Employ multiple tactics: <ul style="list-style-type: none"> - Cultural control including proper plant fertility - Biological control and beneficial insect conservation or preservation - Mating disruption - Host plant resistance

Insect Resistance Management Reminders

Avoid using the same MOA on consecutive generations of the same insect.

Sequential applications of the same MOA are acceptable when targeting the same generation of an insect. Do not apply more than twice to the same generation of insect.

Always read and follow label directions and precautions for use. Some products may not be registered for sale or use in all states. As of November 1, 2017, the USEPA registrations for DuPont™ Altacor®, Coragen®, Exirel®, Prevathon® and Verimark® insect controls and Cyazypyr® and Rynaxypyr® actives have been sold by to FMC by DuPont. FMC, Altacor, Coragen, Cyazypyr, Exirel, Prevathon, Rynaxypyr and Verimark are trademarks of FMC Corporation or an affiliate. ©2018 FMC Corporation. All rights reserved. 18-FMC-0626 04/18.

