

Pesticide Resistance

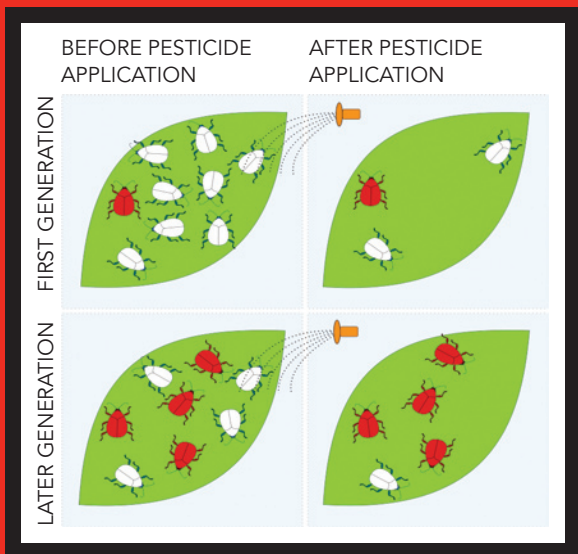


FIGURE 1

Flowable Fungicide

Broad spectrum fungicide for control of plant diseases

GROUP 11 FUNGICIDES

Active Ingredient:
 Azoxystrobin: methyl (E)-2-[2-[6-(2-cyanophenoxy) pyrimidin-4-yloxy]phenyl]-3-methoxyacrylate* 22.9%
 Other Ingredients: 77.1%

Total: 100.0%

FRAC Code on the Quadris label

FIGURE 2

Pesticide Resistance

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PESTICIDE RESISTANCE occurs when a pest population (insect, mite, plant pathogen, weed) develops resistance (decreased sensitivity) to a pesticide that worked in the past (Figure 1). Exposure to a pesticide favors survival and reproduction of naturally-occurring resistant individuals. Repeated use of the same pesticide will select for a pest population with increased resistance to that pesticide. Therefore, pesticide resistance is defined as a “heritable change in the sensitivity of a pest population that is reflected in the repeated failure of a product to achieve the expected level of control when used according to label recommendations.”

Pesticide resistance in the pest population can occur slowly or it can appear suddenly. Crop loss, increased pesticide use, and increased pest populations are the direct effects of pesticide resistance.

Pesticide labels use simple codes (Figure 2) to indicate *pesticide family* or group, which permits users to quickly determine which pesticides have similar *modes of action* and to assist decisions about which products to use. Many labels also contain information on pesticide resistance management particular to that specific product. **Always follow label directions** for appropriate pesticide use, including rates and compatibility with other pesticide products.

PESTICIDE RESISTANCE MANAGEMENT can delay or prevent development of resistant pest populations; and must be initiated well before the appearance of resistance.

- IPM reduces overall pest intensity and reliance on pesticide for pest suppression; provides information for when pesticide use is appropriate, including disease forecasting, action thresholds; and emphasizes judicious pesticide use.
- If a pesticide is needed, multiple pesticide chemistries with different modes of action can reduce repeated selection for resistant individuals. Pesticide partners with different modes of action can be applied simultaneously in a tank mix, or in alternation when more than one application is required.
- An effective pesticide partner must have a separate mode of action; provide satisfactory pest suppression when used alone; and have a similar application interval on the label.
- Monitor for loss of product performance, as this may indicate development of pesticide resistance. If confirmed, contact your extension specialist, crop consultant or pesticide producer to report loss of efficacy.

ADDITIONAL DIAGNOSTICS AVAILABLE AT:

www.frac.info—Fungicide Resistance Action Committee

www.hracglobal.com—Herbicide Resistance Action Committee

www.iraac-online.org—Insecticide Resistance Action Committee