Commercial and Home Horticulture Fungicide Update

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New Fungicides

Fungicide	*Chemistry*	*Crops*	*Diseases caused by:*	*Caution*
Abound	strobilurin -azoxystrobin	grapes	several fungi, see spray guide	Managing fungicide resistance is very important. Efficacy can vary from one crop to another. Reduced-risk fungicides such as these are on the "fast track."
Heritage		turf, greenhouse and outdoor ornamentals	downy and powdery mildews, Botrytis, several root rots	
Quadris		tomatoes, potatoes, selected cucurbits	several fungi, see spray guide	
Compass	strobilurin -trifloxystrobin	greenhouse ornamentals and interiorscapes, nurseries	rust, scab, powdery and downy mildews, Botrytis	
Flint		selected cucurbits, apples, grapes	multiple fungi, see spray guide	
Cygnus	strobilurin - kresoxym-methyl	greenhouse ornamentals	powdery mildew	
Sovran		apples, grapes	multiple fungi, see spray guide	
Contrast	flutolanil	greenhouse and nursery ornamentals	basidiomycetes such as rust and Rhizoctonia	Managing resistance.
Decree	fenhexamid	greenhouse ornamentals	Botrytis	Managing resistance.
Elevate		grapes, strawberries	Botrytis	
Elite	tebuconazole	grapes	black rot, powdery mildew	Managing resistance
Medallion	fludioxonil	greenhouse ornamentals	Botrytis, Rhizoctonia, Fusarium, Sclerotium, Thielaviopsis, Cylindrocladium	Protectant fungicide.
Immunox	myclobutanil	backyard apples, grapes and ornamentals	scab, powdery mildew	Systemic, eradicant for home use.

Spectro 90	chlorothalonil + thiophanate-m	greenhouse ornamentals	a broad range of fungi	Broad spectrum
Quell	mefanoxam	greenhouse ornamentals	Phytophthora, Pythium	Similar to Subdue 2E
Vorlan	vincolzolin	greenhouse ornamentals	Botrytis	Resistance

Reduced Risk Fungicides are on the "Fast Track"

- Fungicide products with reduced impact on the environment and on human health are rushed to market faster than they were previously.
- Fungicides are cleared for use with less efficacy data than in the past.
- Fungicides may be not available for testing by researchers until they are already on the market, or perhaps the year before they are available to the growers.

Strategies for Fungicide Resistance Management

- Alternate with fungicides having a different mode of action.
- Limit the number of times that a fungicide may be applied in a cropping season.
- Reduce the need to apply fungicides by using IPM cultural practices, etc.
- Do not use a fungicide in the greenhouse if that same fungicide will be needed later on that crop in the field.

Greenhouse Uses of Fungicides

- If the label does not specifically state that the chemical is for greenhouse use, it cannot be used in the greenhouse even though it may be allowed on the same crop in the field.
- Greenhouse use is often prohibited for reasons of resistance management or for safety.
- Most fungicides used on ornamentals are not cleared for use on greenhouse vegetables, fruits, and tobacco transplants.

Crop Groupings

- The fungicide label often lists specific crops within a group. The cucurbit group, for example, would include pumpkins, winter squash, cucumbers, cantaloupes, and many other vine crops. Just because some cucurbits are listed doesn't mean that the manufacturer will take responsibility for all cucurbits. Many fungicides are closely related to herbicides and may be phytotoxic on one crop, but not another.

Proper Application of Fungicides

- The vegetable industry in Kentucky is new and mostly unprepared to manage diseases.
- Farmers should use sprayers equipped with drop nozzles and high pressure pumps. Good spray equipment will be easily paid for with increased disease control and yield.
- Broadcast herbicide sprayers are not sufficient for applying fungicides to plant foliage.

IR-4 Activity

- The National IR-4 Committee is becoming very active in labeling new chemicals (500 new labels in the past two years) for uses on minor (e.g., horticulture) crops.

Future Fungicide Prospects

- Actiguard, (known as Bion in Europe) which induces systemic resistance to some diseases, will be registered for downy mildew and bacterial leaf spot control in some crops in early 2000.
- The idea of inducing systemic resistance in plants originated with Dr. Joseph Kuc, a plant pathologist working here at U.K. In Europe, Dr. Kuc is known as "the father of Bion."
- Other compounds such as Harpin, a plant resistance gene product are being tested.

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