Production of quality grapes is highly dependent on fungicide use. Below is a concise update on label changes and new(er) fungicides. You can find the disease efficacy rating in the grape section of E-154 (Michigan Fruit Management Guide). Those that have not been tested in Michigan or showed poor efficacy in trials are simply listed in the fungicide section in the beginning of the book. More products are in the pipeline and may become available this season. You will be updated on new grape fungicides as they get registered for use in Michigan. For fungicide labels and material safety data sheets, go to the following website: www.cdms.net (look under the “Services” tab, then “Labels/MSDS”).

**Label changes**

**Maneb** (manganese ethylenebisdithiocarbamate-EBDC) was discontinued for grapes by the manufacturer several years ago; the residue tolerance runs out on 12/31/12. Make sure to use up any stocks before then.

**Rubigan** (fenarimol [sterol inhibitors=SI]) and **Vintage** (fenarimol [SI]) have been withdrawn by the manufacturer (Gowan): stocks may be used up and the residue tolerance will remains in effect for several years.

**New(er) fungicides**

**Inspire Super** (difenoconazole [SI] and cyprodinil [anilino-pyrimidines]) was registered for grapes in 2011. Difenoconazole belongs to the sterol inhibitor class of fungicides, whereas cyprodinil is the same active ingredient as in Vangard. This fungicide has preventative, systemic, and curative properties against powdery mildew, Botrytis bunch rot, black rot and anthracnose. This fungicide should not be applied to Concord, Concord Seedless and Thomcord grapes due to risk of phytotoxicity from the difenoconazole component. In addition, on *Vitis labrusca* and non-vinifera hybrids, Inspire Super by itself or in combination with foliar fertilizers or adjuvants that increase uptake can increase the risk of leaf burning and phytotoxicity. The application rate is 16-20 fl oz per acre. For all diseases, apply before the onset of disease. Apply on a 10-14 day schedule, with no more than 2 consecutive applications before alternating to a fungicide with a different mode of action. Do not apply more than 80 fl oz of Inspire Super per acre per season and no more than 0.46 lb a.i. difenoconazole and 1.4 lb a.i. cyprodinil. The PHI is 14 days, and the REI is 12 hours. Inspire Super has shown excellent control of powdery mildew, black rot and Phomopsis in trials in Michigan.

**Luna Experience** (fluopyram [succinate dehydrogenase inhibitors-SDHI] + tebuconazole [SI]) is a new, broad-spectrum fungicide for wine grapes with preventative, systemic and curative properties. The label stipulates that the fungicide be used on wine grape varieties only and not on juice or table grapes. Luna Experience is labeled for
control of powdery mildew, black rot, Botrytis gray mold; and for suppression of Phomopsis cane and leaf spot. Fungicide applications should be made preventively. The recommended application rate is 5 to 8.5 fl oz/acre at 14-21-day intervals. Do not apply more than 34 fl oz of Luna Experience per acre per season and make no more than 2 sequential applications of this fungicide or any fungicide in the carboxamide or SI class before switching to a fungicide with a different mode of action. Do note that Luna Experience has a Restricted Entry Interval of 10 days for grape leaf pulling and tying/training. The pre-harvest interval is 14 days. In efficacy trials in Michigan, Luna Experience has provided excellent control of powdery mildew, black rot, and Botrytis bunch rot.

**Meteor** (Iprodione [dicarboximides]) is a generic fungicide with the same active ingredient as Rovral. This fungicide can be used for Botrytis bunch rot control in grapes. The application rate is 1-2 pt/acre in a minimum of 50 gpa to ensure good coverage. Do not allow spray mixture to stand overnight or for prolonged periods or chemical breakdown may occur, particularly in water with a high pH. Buffer the spray mixture to pH 5.0-7.0. Add a non-ionic adjuvant to improve coverage; always add Meteor before adding the adjuvant. The restricted entry interval is 48 hours in grapes and the PHI is 7 days. Do not apply more than once per season on table grapes, and four times per season on wine grapes. Thorough coverage of grape bunches is essential.

**Mettle** (tetraconazole [SI]) is a new a systemic fungicide labeled for control of powdery mildew and black rot in grapes. When a post-infection application is used for black rot, it is recommended within 72 hours of an infection period. Mettle is absorbed quickly into the plant tissue and is rainfast within 2 hours of application. Do not make more than two applications of Mettle to grapes per year. The maximum amount of Mettle allowed per season is 10 fluid ounces and there must be at least 14 days between applications. Do not apply Mettle through any kind of irrigation system. The REI of Mettle is 12 hours and the PHI is 14 days. Mettle has performed similarly to Elite in Michigan trials.

**Quadris Top** (azoxystrobin [strobilurins] and difenoconazole [SI]) was registered last year for use in grapes. Quadris Top is systemic and has preventative and curative properties and is labeled for control of powdery mildew, downy mildew, black rot, anthracnose, and minor foliar diseases; and suppression of Botrytis bunch rot. As such it has a very broad spectrum of control. However, this fungicide should not be applied to Concord, Concord Seedless and Thomcord grapes. In addition, on *Vitis labrusca* and non-vinifera hybrids, Quadris Top by itself or in combination with foliar fertilizers or adjuvants that increase uptake, can increase the risk of leaf burning and phytotoxicity. Also, due to the azoxystrobin component, Quadris Top is extremely phototoxic to certain apple varieties, so treat this product like you would Abound. The application rate is 10-14 fl oz per acre and can be applied on a 10-14 day schedule. Do not apply more than two consecutive sprays and a total of 56 fl oz per acre per season are allowed. The REI is 12 hours and the PHI is 14 days.

**Sil-Matrix** (potassium silicate [salt]) is a broad-spectrum, preventative fungicide for control of powdery mildew and Botrytis in grapes. Sil-Matrix also provides suppression
of mites, aphids, whiteflies, and other insects. Sil-Matrix is OMRI-listed, so can be used in organically managed vineyards. Thorough coverage is important for control, and a 0.5% to 1.0% solution is recommended. Sil-Matrix is compatible with most commonly used agricultural pesticides. However, avoid contact with glass and remove promptly from glass surfaces. Performance can be optimized by addition of a non-ionic surfactant. Do not apply less than 7 days apart or more than 20 gal/acre per season. Do not make post-harvest applications. Sil-Matrix can also be used in alternation with conventional fungicides in a spray program. Sil-Matrix has an REI of 4 hours and a PHI of 0 days. Sil-Matrix requires more evaluation on grapes in Michigan but has shown good control of Botrytis gray mold in strawberries and powdery mildew in grapes in California.

**Vivando** (metrafenone [aryl-phenyl-ketones]) was registered for grapes last year and has a new and unique mode of action. It is the first in its chemical class and no cross-resistance is known with other fungicides. Its specific mode of action not known. It is labeled for powdery mildew control and is a good choice in vineyards with (suspected) fungicide-resistant strains. In Michigan trials, Vivando had excellent activity against powdery mildew and also suppressed black rot and downy mildew (these diseases are not on the label, however). This fungicide prevents infections and limits fungal growth, sporulation, and spore viability. Since Vivando does not have curative activity it should be applied preventively. It can be applied at 10-15 fl oz any time after budbreak on a 14-day to 21-day schedule. With longer spray intervals, a higher dose should be used. Shorter intervals may be needed during rapid plant growth and high disease pressure. Vivando is rainfast within 1 hour and redistributes across the plant surface, providing improved coverage. Use of a silicone-based surfactant is recommended. A maximum of 2 consecutive sprays and a total of 3 sprays is allowed. The PHI is 14 days and the REI 12 hours.