

In this Issue...

**The IPM Scout
Market Window**

*Alternative PM fungicides
Play with your Pumpkins;
More on entertainment
insurance*

Ask the Great Pumpkin

Varmints

Unlike most fungicides today, they are inorganic, not synthetic organic, chemicals.

A “biofungicide” or a “microbial pesticide” according to the US EPA, is a microorganism applied to suppress a disease. AQ10 and Serenade are biofungicides, although they work very differently. AQ10 is a fungus that grows on and kills the powdery mildew fungus. Serenade is a bacterium that produces an antibiotic that kills powdery mildew.

The IPM Scout

There is a lot of interest in alternatives to conventional fungicides. One pumpkin disease that has been targeted by many different companies is powdery mildew. There are a number of alternative powdery mildew fungicides that are registered for commercial use (Table 1). They are promoted as being safer than conventional fungicides for farm workers, nontarget organisms (e.g., beneficial insects, fish), and consumers.

OxiDate, Kaligreen, Armicarb, Remedy, copper, and plain old-fashioned sulfur are listed as fungicides.

According to their labels, Trilogy is a “botanical fungicide” and Milsana is a “bioprotectant.” Although both contain plant extracts, Trilogy protects plants by killing powdery mildew spores, while Milsana strengthens the plant’s resistance to powdery mildew.

In field trials, several of these alternative fungicides (AQ10, M-Pede, and Kaligreen) controlled powdery mildew. Severity of powdery mildew, measured on both the top and bottom of leaves, was less than in nontreated plots. However, these three products were less effective than the new powdery mildew fungicide Nova.

Table 1. “Alternative” Fungicides Registered for Control of Powdery Mildew on Cucurbits

Fungicide	Manufacturer	Active Ingredient	Use Rate	Registration
Milsana	KHH BioSci	extract from giant knotweed	N/A	pending
AQ10	Ecogen	<i>Ampelomyces quisqualis</i> (fungus)	0.5-1.0 oz/A	commercial
Kaligreen	Nichimen	potassium bicarbonate	3 lb/A	commercial
Armicarb 100	Church & Dwight	potassium bicarbonate	2.5-5 lb/A	commercial
M-Pede	Mycogen	potassium salts of fatty acids	2%	commercial
Remedy	Bonide	potassium bicarbonate	2 Tbsp/gal/ 450 sq ft	home garden
Serenade	AgraQuest	<i>Bacillus subtilis</i> (bacterium)	6-8 lb/A	commercial
Trilogy	Thermo Trilogy	extract from the neem tree	1% (or 2 pt/A)	commercial
OxiDate	BioSafe Systems	hydrogen dioxide	0.3-1.0%	commercial
Sulfur	various	elemental sulfur	varies	commercial, home garden
Copper	various	copper hydroxide	varies	commercial, home garden

Pumpkin growers in areas with low powdery mildew pressure who apply these alternative products at maximum labeled rates and intervals and start before powdery mildew is found might be able to use them in place of the more expensive new fungicides. A more practical use would be to use them in rotation with more expensive fungicides, particularly early in the season. Unlike Nova, Quadris, and Flint, conventional fungicides recently registered to control powdery mildew, these alternative fungicides do not have curative activity. They must be applied preventively.

Remember that these alternative fungicides for powdery mildew generally will not control other diseases. One exception is copper fungicides, that offer some control of downy mildew if applied before disease appears.

Market Window

Play with your Pumpkins by Joost Elffers and Saxton Freymann. Text by Johannes van Dam. Stewart, Tabori and Chang, New York. ©1998.

Elffers had the original idea to use the handle of the pumpkin as the nose, the part of the face that protrudes. Freymann carved the holes for the eyes and mouth to create the unique—and captivating—faces seen throughout this book. Elffers’ previous book, *Play with your Food*, was featured in the Oct. ‘97 **SC Pumpkin News**.

The numerous illustrations in *Play with your Pumpkins* make this book worthwhile for pumpkin and folk art lovers. However, the text was clearly written by a European and has little new information for an American audience familiar with the pumpkin. The book includes 24 recipes literally “from around the world” that use pumpkin as the main ingredient.

In the July 1999 issue of **SC Pumpkin News** I mentioned entertainment insurance, but had little information about it. The July 2000 issue of *The Vegetable Growers News* had some information from the North American Farmers’ Direct Marketing Association. Members of NAFDMA can purchase a group farm liability insurance policy. One large ag entertainment farm in Arizona, Schnepf Farms, uses

this insurance to cover all of their events and festivals. Disclaimer: As with any insurance product, read the fine print and question the representative to make sure the policy will cover your particular needs. Contact the North American Farmers’ Direct Marketing Association at 62 White Loaf Road, Southampton, MA 01073; toll-free 1-888-884-9270. Annual dues are \$75.00.



Ask the Great Pumpkin

Q: Something is eating all the leaves of my pumpkin plants right down to the stalk. Solve the debate. My brother says its deer, I say its rabbits. What do you say? Why anything would eat a pumpkin leaf is beyond me. That’s like eating burnt toast with no apple butter!

GP: I have to go with your brother on this one. A pumpkin leaf is too high up in the air to be eaten by a rabbit. Check for deer tracks around your plants. You can try commercial deer repellents (such as Hinder or hot pepper oil), although they are rather expensive. There are many “home remedies” to repel deer, such as hanging #2 plastic bags or bars of Irish Spring soap over the pumpkins, or spreading human hair or human urine around them. During severe droughts, there is probably nothing short of hunting that will keep deer away.

SC Pumpkin News

VOLUME 5, No. 2

October 2000

Editor and Contributor.....**Anthony P. Keinath**
 Production Assistants.....Ginny DuBose & Harriett Hall
 Pumpkin Webmaster.....Bob Polomski

Published quarterly (Jan., Apr., Jul., & Oct.). To subscribe, mail your name, address, and E-mail address (if available) to SC Pumpkin News, c/o Dr. Anthony P. Keinath, Coastal REC, 2865 Savannah Highway, Charleston, SC 29414-5332. Back issues are available at no charge. **SC Pumpkin News** is available on the World Wide Web at <http://www.clemson.edu/groups/hort/vegprog.htm>.

The Clemson University Cooperative Extension Service offers its programs to people of all ages, regardless of race, color, sex, religion, national origin, or disability and is an equal opportunity employer.

Clemson University Cooperating with U.S. Department of Agriculture and South Carolina Counties. Issued in Furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of May 8 and June 30, 1914.