Martin-Gatton
College of Agriculture, Food and Environment
Cooperative Extension Service

Plant Pathology Fact Sheet **PPFS-VG-36**

Commercial Spray Schedule for Production of Winter Squash

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In Kentucky, winter squashes are common cucurbit crops grown in open field production. Numerous plant pathogens can cause disease, resulting in plant damage and yield loss. Applications of fungicides and bactericides are often necessary to limit plant diseases. Fungicides and bactericides provide the greatest efficacy when applied preventively (prior to disease onset), rather than after observing disease symptoms. Growers can develop a spray schedule for each season to limit the impact of diseases on crop production. This document provides information on the timing of the most common winter squash diseases, as well as an example spray schedule. Fungicides and bactericides recommended here include a few of the most common products. A complete list of registered fungicides can be found in the *Vegetable Production Guide for Commercial Growers* (ID-36) and the *Southeast U.S. Vegetable Crop Handbook* (SEVEW); generic products may also be available.

Disease	Time Period
Pythium root rot	June – July
Angular leaf spot	June – Aug
Anthracnose	July – Aug
Powdery mildew	July – Aug
Cercospora leaf spot	July – Aug
Southern blight	July – Aug
Downy mildew	August
Phytophthora blight	August

Table 1. Timeline of common and important diseases occurring on winter squash.

Bacterial wilt (*left*) and powdery mildew (*right*) are common diseases of winter squash in Kentucky.

Disease Management for Winter Squash Production

GENERAL NOTES

The following list includes an example of products, but is not comprehensive. A complete list of fungicides and their efficacy can be found in the *Vegetable Production Guide for Commercial Growers* (ID-36) and the *Southeast U.S. Vegetable Crop Handbook* (SEVEW). See Additional Resources section.

Always read product labels for specific use instructions. The label is the law.

PREPLANT

To help prevent disease, do not plant squash or other cucurbit crops in the same field year after year. For sites with a history of soilborne diseases, rotate out of cucurbit crops for at least 3 years. When possible, use resistant cultivars (for example, to powdery mildew). Space and prune plants for maximum air circulation. Follow cultural practices, such as rotating crops, planting in well-drained soil, selecting resistant cultivars, and practicing good sanitation. Use treated and/or certified seed when available.

AT PLANTING (Approximately early May to mid-June)

Apply Previcur Flex or Ridomil for Pythium root rot and damping-off if disease emerges. If field has a history of belly rot, cottony leak, or Fusarium fruit rot, pre-plant or at-plant treatments may be required. To prevent bacterial wilt, manage cucumber beetles beginning at seedling stage (See *Cucumber Beetles* Entfact-311 publication).

VEGETATIVE GROWTH AND FLOWERING (Approximately June and July)

Practice good sanitation. Avoid moving soil from contaminated fields via tools or equipment.

Application Timing *Weeks after seeding*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
Week 1 to 6	Use fungicides preventatively before disease develops. Applications should be made every 1 to 2 weeks.	Chlorothalonil	Leaf diseases
		Mancozeb	

HARVEST (Approximately August and September)

Application Timing *Weeks after transplant*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
Week 7 to 12	Applications should be made every 1 to 2 weeks. Rotate products between applications to avoid resistance development.	Chlorothalonil	Alternaria blight, anthracnose, Cercospora, downy mildew, powdery mildew
		Fontelis	
		Pristine	
		Quadris Top	
Week 9 to 12	Applications should be made when disease is severe.	Rally	Powdery mildew
		Torino	
		Vivando	
As needed[1]	Applications should be made every 1 to 2 weeks when risk is high. Monitor disease via ipmpipe.org forecasting site.	Orondis Opti/Ultra	Downy mildew
		Previcur	
		Ranman	
As needed[1]	Applications should be made every 1 to 2 weeks.	Copper	Angular leaf spot
		ManKocide[3]	

[1] Application necessary when diagnostic results confirm presence of disease or if field has a history of disease.

[2] See SEVEW Table 3-53 Biopesticides for alternative products. (Note: This production guide is revised annually, and the location of this information could change with updates.)

[3] Preharvest interval (PHI) is 5 days and may not be compatible with harvest schedule.

Example field spray schedule for winter squash production

Weeks after Planting	Fungicide(s)	Target Diseases
1-6	Mancozeb	LS
Weeks during Harvest	**Fungicide(s)**	**Target Diseases**
7	Inspire Super	A, C, PM
8	Chlorothalonil	A, C, DM, PM
9	Inspire Super	A, C, PM
10	Chlorothalonil	A, C, DM, PM
11	Inspire Super	A, C, PM
12	Chlorothalonil	A, C, DM, PM

A - anthracnose**; C -** Cercospora**; LS** - leaf spots; **PM** - powdery mildew

Disclaimer

Fungicides listed here include a few of the most common products available and were selected to simplify information in this publication. No endorsement is intended nor is criticism implied of similar products that are not named.

Additional Resources

Additional information can be found on the UK Plant Pathology Extension Publications webpage https://plantpathology.ca.uky.edu/extension/publications

Fact Sheets

- Bacterial Wilt of Cucurbits (PPFS-VG-11)
- Cucumber Beetles (EntFact-311)
- Cucurbit Downy Mildew in Kentucky (PPFS-VG-27)
- Leaf Spot Diseases of Cucurbits (PPFS-VG-10)
- Powdery Mildew (PPFS-GEN-02)
- Southern Blight (PPFS-VG-11)

Production & Spray Guides

- Southeast U.S. Vegetable Crop Handbook (SEVEW)
- Vegetable Production Guide for Commercial Growers (ID-36)

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