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

Plant Pathology Fact Sheet **PPFS-VG-34**

Commercial Spray Schedule for Field Production of Pumpkin

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Introduction

Pumpkins are the most common cucurbit crop grown commercially in Kentucky. Numerous plant pathogens can cause disease, resulting in plant damage and yield loss. Applications of fungicides and bactericides are often necessary to limit the effects of plant diseases. Fungicides and bactericides provide the greatest efficacy when applied preventively (prior to disease onset). Growers should develop a spray schedule for each season in order to limit the impact of diseases. This document provides information on the timing of the most common pumpkin diseases, as well 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.

Timeline of common and important diseases occurring on field-grown pumpkin crops.

Pumpkin	
Disease	**Time Period**
Seedling diseases (Rhizoctonia, Fusarium, Pythium)	June - July
Angular leaf spot/bacterial spot	July - Sep
Cercospora leaf spot	July - Sep
Fusarium crown rot	July - Aug
Phytophthora blight & fruit rot	July - Aug
Phytophthora stem & root rot	July - Aug

Pumpkin	
Disease	**Time Period**
Powdery mildew	July - Sep
Anthracnose	Aug - Sep
Downy mildew	Aug - Sep
Plectosporium blight	Aug - Oct
Pythium cottony leak	Aug - Oct
Fusarium fruit rot	Sep - Oct

Powdery mildew *(left)* and Fusarium fruit rot *(right)* are common pumpkin diseases that can occur in field production.

Disease Management for Field Pumpkins

GENERAL NOTES

The following includes an example of products; this list 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 AND PLANTING (prior to mid-June/planting begins mid-June)

Do not plant cucurbit crops in the same field year after year. Rotate out of cucurbit crops for at least 3 years in the same field, especially for sites with a history of soilborne diseases. Space plants for maximum air circulation. When available, use resistant cultivars (e.g. downy mildew or powdery mildew resistant cultivars). Use treated seed when available to reduce seedling diseases. Follow cultural practices (rotate crops, improve drainage, practice sanitation).

VEGETATIVE GROWTH (Approximately mid-June through mid-August)

Practice good sanitation, such as removing diseased or senescing tissue regularly and removing clippings and debris from the field.

Application Timing *Weeks after planting/transplant*	**Application Notes**	**Fungicides[2]**	**Target Diseases**
Week 1 to 3	Fungicides are typically not needed prior to vine touch (approximately week 4).	None	None
Week 4 to 7	Use fungicides preventatively before disease develops. Applications should be made every 1 to 2 weeks.	Bravo	Leaf spots, powdery mildew
		Manzate[3]	

FLOWERING THROUGH HARVEST (Approximately mid-August through October)

Application Timing *Weeks after planting/transplant*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
Week 8 to 15	Use fungicides preventatively before disease develops. Applications should be made every 1 to 2 weeks. Tank mix Bravo or Manzate with another fungicide for best results.	Bravo	Leaf spots, powdery mildew
		Manzate[3]	
		Cabrio	
		Inspire Super	
		Quadris	
		Quadris Top	
		Rally	
As needed[1]	Applications should be made every 1 to 2 weeks when risk is high. Monitor disease via ipmpipe.org forecasting site.	Orondis Ultra	Downy mildew
		Previcur Flex	
		Ranman	
		Zing!	
As needed[1]	Applications should be made every 1 to 2 weeks if disease is present.	Actigard	Angular leaf spot
		Copper	
		Copper + Manzate[3]	
As needed[1]	Preventative applications should be made if field has a history of disease.	Proline	Gummy stem blight, Fusarium crown rot & fruit rot

[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 can change with updates.)

[3]Mancozeb is not effective for the management of powdery mildew.

Disease Management for Field Pumpkins			
FLOWERING THROUGH HARVEST (Approximately mid-August through October)(*cont'd*)			
Application Timing *Weeks after planting/transplant*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
As needed[1]	Preventative applications should be made if field has a history of disease.	Orondis Ultra	Phytophthora blight & fruit rot
		Presidio	
		Ranman	
		Revus	
As needed[1]	Preventative applications should be made if field has a history of disease.	Cabrio	Plectosporium blight
		Quadris	
		Quadris Top	

[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 can change with updates.)
[3]Mancozeb is not effective for the management of powdery mildew.

Example field spray schedule for pumpkin

Pumpkin		
Weeks after Planting	**Fungicide(s)**	**Target Diseases**
1-3	No spray	-
4-7	Bravo[1] or Manzate[1]	LS
Weeks during Flowering and Harvest	**Fungicide(s)**	**Target Diseases**
8	Bravo[1] or Manzate[1] + Cabrio, Quadris, Quadris Top, or Inspire Super	LS, DM[2], PM
9	Bravo[1] or Manzate[1] + Rally or Quintec[1]	LS, DM[2], PM
10	Bravo[1] or Manzate[1] + Cabrio, Quadris, Quadris Top, or Inspire Super	LS, DM[2], PM
11	Bravo[1] or Manzate[1] + Rally or Quintec[1]	DM[2], PM
12	Bravo[1] or Manzate[1] + Cabrio, Quadris, Quadris Top, or Inspire Super	DM[2], PM
13-15	Bravo[1] or Manzate[1]	DM[2], PM

DM - downy mildew; **LS** - leaf spots; **PM** - powdery mildew
[1]Notes on fungicide efficacy to specific target diseases: **Bravo is** not effective against downy mildew; **Manzate** is not effective against powdery mildew; **Quintec** is only effective against powdery mildew.
[2]Add a downy mildew specific product when disease risk is high.

Additional Resources

- IPM Pipe Cucurbit Downy Mildew Forecasting Website
https://cdm.ipmpipe.org/
- Plant Pathology Extension Publications (UK)
https://plantpathology.ca.uky.edu/extension/publications
- Southeast U.S. Vegetable Crop Handbook (SEVEW)
https://www.aces.edu/blog/topics/crop-production/southeastern-us-vegetable-crop-handbook/
- Vegetable Production Guide for Commercial Growers (ID-36)
https://www2.ca.uky.edu/agcomm/pubs/ID/ID36/ID36.pdf

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.

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