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

Plant Pathology Fact Sheet **PPFS-VG-43**

Organic Commercial Spray Schedule for Field Production of Tomatoes

Nicole Gauthier
Plant Pathology Extension Specialist

Kim Leonberger
Plant Pathology Extension Associate

Sara Long
Plant Disease Diagnostic Assistant

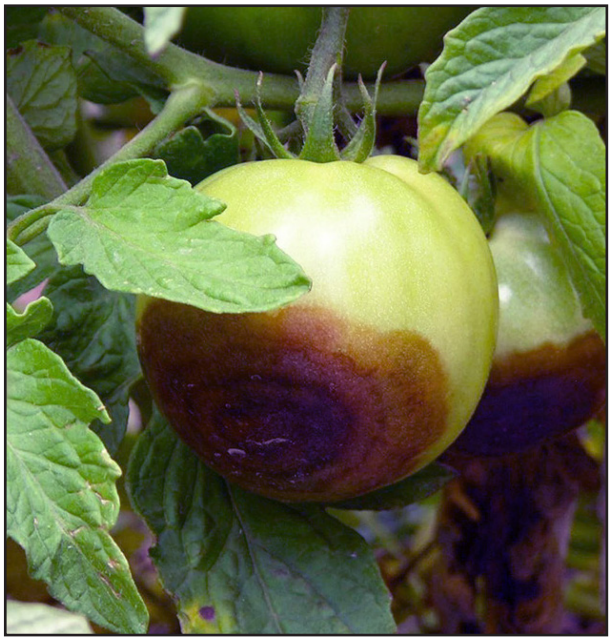
Rachel Rudolph
Horticulture Extension Specialist

Introduction

Commercial field production of organic tomatoes allows growers to yield premium crop prices. However, numerous plant pathogens can cause disease, resulting in plant damage and yield loss. Applications of fungicides and bactericides are often necessary to limit the impact of plant diseases. These products provide the greatest efficacy when applied prior to disease onset. Growers should develop a preventative spray schedule for each crop and season to limit the impact of diseases. Organic growers will rely on specific products to maintain certifications or be able to market produce as organically produced. This document provides information on the timing of the most common tomato diseases, as well as an example spray schedule. Fungicides recommended here include a few of the most common products; a complete list of registered fungicides can be found in *Vegetable Production Guide for Commercial Growers* (ID-36) and *Southeastern U.S. Vegetable Crop Handbook* (SEVEW); generic products may also be available. Information on OMRI approved products is available at https://www.omri.org/.

Tomato	
Disease	**Time Period**
Rhizoctonia root and crown rot	May – Sept
Bacterial spot	June – Sept
Bacterial speck	June – Aug
Early blight	June – Sept
Septoria leaf spot	June – Sept
Anthracnose ripe rot	July – Aug
Buckeye rot, Phytophthora blight	July – Aug
Fusarium wilt	July – Aug
Southern blight	July - Aug

Timeline of common and important diseases occurring on tomato



Septoria leaf spot (*left*) and buckeye rot (*right*) are common tomato diseases in Kentucky.

Disease Management for Organic Field Tomatoes

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 *Vegetable Production Guide for Commercial Growers* (ID-36) and *Southeastern U.S. Vegetable Crop Handbook* (SEVEW). See Additional Resources section.

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

PREPLANT

Rotate out of solanaceous crops for at least 3 years, especially for sites with a history of soil-borne diseases. Space plants for maximum air circulation. For sites with a history of timber rot, incorporate Contans into the soil in January. Follow cultural practices (rotate crops, improve drainage, select resistant cultivars, practice sanitation).

TRANSPLANT (Approximately early May)

Apply LalStop K61 or RootShield Plus at transplant if field has a history of Rhizoctonia root rot or if damping off disease emerges. Apply LalStop K61 or Obtego if Pythium root rot emerges.

VEGETATIVE GROWTH (Approximately mid-May through late June)

Sucker and prune tomato plants early while suckers are small to avoid creating large open wounds. Use clean tools. Space and prune plants for increased air circulation. Practice good sanitation (e.g., remove diseased or senescing tissue regularly, remove clippings and debris from fields).

Application Timing *Weeks after transplant*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
Week 1 to 8	Use fungicides and bactericides preventatively, before disease develops. Applications should be made every 1 to 2 weeks. A SAR inducer can help plants build immunity.	Copper[3,4] OSO Cease/Stargus SAR inducer Actinovate/Regalia	Bacterial spot, bacterial speck, early blight, Septoria leaf spot, target spot
As needed[1]	Fields with a history of bacterial disease, apply every 2 weeks.	Copper[3,4] Cease/Stargus Leap	Bacterial spot, bacterial speck

HARVEST (Approximately July to mid-August)

Prune to maintain good air circulation. Sanitation is critical.

Application Timing *Weeks after transplant*	**Application Notes**	**Fungicides/Bactericides[2]**	**Target Diseases**
Week 9 to end of season	Applications should be made every 1 to 2 weeks. A SAR inducer can help plants build immunity.	Copper[3,4] OSO Cease/Stargus SAR inducer Actinovate/Regalia	Anthracnose ripe rot, bacterial spot, bacterial speck, early blight, Septoria leaf spot, target spot
As needed[1]	Applications should be made every 1 to 2 weeks. A SAR inducer can help plants build immunity.	Copper[3,4] Cease/Stargus Leap SAR inducer Actinovate/Regalia	Bacterial spot, bacterial speck

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

[2] See SEVEW Table 3-51 Biopesticides for alternative products. (Note: This production guide is revised annually and location of this information could change.)

[3] Copper products can include Badge, Basic Cop, Nordox, or NuCop.

[4] Combining copper fungicides with SAR products like Actinovate, Regalia, and some Bacillus products can enhance efficacy of copper-based fungicides

Disease Management for Organic Field Tomatoes

HARVEST (Approximately July to mid-August) *(cont'd)*

Prune to maintain good air circulation. Sanitation is critical.

Application Timing *Weeks after transplant*	Application Notes	Fungicides/Bactericides[2]	Target Diseases
As needed[1]	Applications should be made every 1 to 2 weeks.	OSO	Southern blight
		Obtego	
As needed[1]	Applications should be made every 1 to 2 weeks.	Zonix	Buckeye rot
		Rootshield Plus	
		LalStop K61	
		Cease/Stargus	

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

[2] See SEVEW Table 3-51 Biopesticides for alternative products. (Note: This production guide is revised annually and location of this information could change.)

[3] Copper products can include Badge, Basic Cop, Nordox, or NuCop.

[4] Combining copper fungicides with SAR products like Actinovate, Regalia, and some Bacillus products can enhance efficacy of copper-based fungicides

Example spray schedule for organic field production of tomato.

Organic Field Tomato		
0	LalStop K61 (optional)	SP
Weeks after Transplant	**Fungicide(s)**	**Target Diseases**
1	NuCop+OSO	BSS
2	NuCop+OSO	BSS
3	Cease+Leap	BSS, LS
4	NuCop+OSO	BSS, LS
5	Cease+Leap	BSS, LS
6	NuCop+OSO	BSS, LS
7	Cease+Leap	BSS, LS
8	NuCop+OSO	BSS, LS
Weeks during Harvest	**Fungicide(s)**	**Target Diseases**
9	Cease+Leap	A, BSS, LS
10	NuCop+OSO	A, BSS, LS
11	Cease+Leap	A, BSS, LS
12	NuCop+OSO	A, BSS, LS
13	Cease	A, LS
14-15	Cease	A, LS

A – Anthracnose; BSS – Bacterial spot & Bacterial speck; LS – Fungal leaf spots; SP – Soilborne pathogens

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

- Vegetable Production Guide for Commercial Growers (ID-36)
- Southeastern U.S. Vegetable Crop Handbook (SEVEW)
- OMRI Product Website https://www.omri.org/

May 2025

Editor: Cheryl Kaiser, Plant Pathology Extension Support

Photos: Bugwood.org—Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo (Septoria leaf spot) and Don Ferrin, Louisiana State University Agricultural Center (buckeye rot)