



**Intensive Fungicide Spray Program to Control
Diseases of Blueberry in Ohio
— 2017 —**



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General Comments

1. **All spray programs should be designed to enhance an integrated disease management program.** Very rarely do chemicals alone prevent or slow disease to a level that minimizes economic losses. There is no single chemical that is effective against all foliar diseases, which means that a combination of products in a spray program is necessary to optimize disease management.
2. **A spray program should be thoughtfully developed to prevent and slow the development of fungicide resistant pathogens in the vineyard.** Fungicides that have a site-specific mode of action are classified as medium to high risk for fungicide resistance development. Fungicides with Fungicide Resistance Action Committee (FRAC) codes or numbers 1, 2, 3, 4, 7, 9, 10, 11, 13, 16, 43, 47, 49, U06, and U08, are medium to high risk fungicides and no more than two sequential applications of a high-risk fungicide should be applied before alternating to a fungicide with a different mode of action. Do not over use fungicides (there are restrictions on how frequently high-risk fungicides can be applied) and only apply fungicides at the recommended manufacturer rates. *It is unlawful to apply fungicides in a manner that is inconsistent with the product label.* Botrytis blight is the most problematic with respect to fungicide resistance problems on blueberries. Usually the first indication of resistance in the planting is when a fungicide does not provide the same level of control compared to previous years, especially on susceptible varieties. In the worst case scenario, the material provides no control and the crop is lost due to disease. It is important to continually monitor (scout) the planting for signs and symptoms of reduced disease control.

There are no commercial laboratories that screen pathogens for fungicide resistance. If you suspect that resistant fungi are present in the planting please contact Dr. Melanie Lewis Ivey for assistance in confirming resistance and developing an alternative fungicide spray program to slow or prevent additional resistance development.

3. **Spray guides are recommendations only.** It's important to remember that product efficacy may vary depending on disease pressure, weather conditions, product coverage, the presence of resistant pathogen populations and/or the blueberry variety. For any given disease and at any specific application timing there are many registered fungicide options. The final fungicide spray program that you develop should consider the cost of specific fungicides selected as well as the targeted diseases and the potential for resistance development in the pathogen population.

Unless diseases are or have not been a problem, an intensive fungicide spray program, such as the one provided below, may not be necessary.

Fungicide Spray Program for Ohio Blueberry Growers-2017

Phomopsis twig blight is probably the most common canker disease of blueberries. This disease has the potential to severely decrease yields, particularly on susceptible varieties. Very rarely do chemicals alone prevent or slow disease to a level that minimizes economic losses, however when disease is severe, entire plants can die if fungicides are not applied.

This program was designed for the control of Phomopsis twig blight (PHOM) but will provide good to excellent control of the shoot blight and blossom infection stages of mummy berry (MB), Botrytis blight (BOT), anthracnose cane blight (Anth) and Phytophthora root rot (Phyt). Only fungicides reported to have good to excellent control (see Midwest Fruit Pest Management Guide) against Phomopsis twig blight are listed.

Bud Break and Green Tip

Growth Stage	Product (rate/A)	FRAC Code	PHI	Target Disease
Bud break	Sulforix (1-2 gal)	M	-	Anth, Phom
	AND			
	Ridomil Gold SL or Aliette (5 lb)	4 33	0 0	Phyt
Green tip (1/16-1/4 inch)	Quash (2.5 oz) or AFrame Plus (14-21 fl. oz.) or Proline 480 SC (5-5.7 fl. oz.) or Indar 2F (6 fl. oz.) or Pristine 38WG (18.5-23 oz.) or Quilt Xcel (14-21 oz.) or Ziram 76DF (3 lb)	3 11 3 3 11/7 11/3 M	7 0 7 30 0 30 -	MB, Phom, Anth

Pink bud to First Cover Spray

Growth Stage	Product (rate/A)	FRAC Code	PHI	Target Disease	
Pink bud to 25% bloom	AFrame Plus (14-21 fl. oz.) or Proline 480 SC (5-5.7 fl. oz.) or Indar 2F (2 oz.) or Quilt Xcel (14-21 oz.) or Ziram 76DF (3 lb)	11 3 3 11/3 M	0 7 30 30 -	MB, Phom, Anth	
	PLUS				
	Elevate 50WG (1.5 lb) or CaptEstate 68WDG (3.5-4.7 lb) or Switch 62.5WG (11-14 oz.) or Tavano 5% SC (16-24 fl. oz.)	17 M/17 9/12 19	0 0 0 0	Bot	
	OR USED ALONE				
	Pristine 38WG (18.5-23 oz.) or Quash (2.5 oz)	11/7 3	0 7	MB, Phom, Anth, Bot	
	Full bloom to petal fall	Same as Pink bud to 25% bloom			
	First cover (7 days after petal fall)	Quash (2.5 oz) or Pristine 38WG (18.5-23 oz) or Switch 62.5WG (11-14 oz.) or CaptEstate 68WDG (3.5-4.7 lb) or Abound (6.2-15.4 fl. oz.)	3 11/7 9/12 M/17 11	7 0 0 0 0	Anth, Phom

Second Cover Spray to Leaf Fall

Growth Stage	Product (rate/A)	FRAC Code	PHI	Target Disease
Second cover (10 days first cover spray)	Same as first cover			
Third cover spray (10 days after second cover spray)	Same as first cover			
Post-harvest until leaf fall	Captan 50WP (5 lb)	M	-	Phom

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