

# The Blueberry Bulletin

*A Weekly Update to Growers*

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\* Visit the Blueberry Bulletin webpage at [www.njaes.rutgers.edu/blueberry-bulletin](http://www.njaes.rutgers.edu/blueberry-bulletin)

\* The 2021 Commercial Blueberry Pest Control Recommendations for New Jersey is available on [njaes.rutgers.edu](http://njaes.rutgers.edu)

*Based on the current COVID 19 public health emergency, the Department has extended an interim policy allowing 100% online CEUs for remaining credits to accommodate for applicators whose 5-year recertification cycle ends October 31, 2021 **and 2022**. To verify if you are eligible, please click [HERE](#).*

*Numerous online CEU courses are available and the Department continues to work directly with course providers to maintain an adequate number of online courses and CEUs while ensuring providers adhere to minimal online modality standards including student ID verification and class monitoring. For a list of available online CEU courses and providers, please click [HERE](#).*

*Based on this interim policy, license recertification dates will not be extended. The Department anticipates that those licenses expiring in 2023 and beyond will be held to the standard maximum of 25% online training CEUs, however further policy adjustments will be considered based on the ongoing COVID-19 pandemic.*

## CULTURE

**Dr. Gary C. Pavlis, Ph.D**  
**Atlantic County Agricultural Agent**

The blueberry season is over and all in all it was a pretty good season in spite of all the rain. During my travels to all the farms in the area I was reminded that many blueberry farms sell a small percentage of their crop retail to a loyal following of customers. I would like to make a suggestion with regard to this part of the market. It is well known to growers that we in New Jersey basically grow three varieties of blueberries, the "Duke", "Bluecrop", and "Elliott". "Duke" has many attributes such as

high yields, late flowering, and firmness but as anyone knows, great flavor is not one of its greatest attributes. "Bluecrop" is highly adaptable to many soil types, yields well and its flavor is good. "Elliott", on the other hand, is a very good producer, it is firm, attractive, and quite anthracnose resistant but its flavor is mediocre at best. I was told long ago by a marketing exec that to ignore a segment of the market eventually will come back to bite you. It makes sense to provide the best blueberries

possible to this small retail market by producing blueberries that are superior in flavor. Most of these varieties are well known but not grown in New Jersey because they are not suited to mechanical harvesting, are not firm thus are not suitable for shipping, or are not high yielding. All of these factors are not important for that small retail market. The number one criteria for this market are flavor which is what these customers are looking for and will pay a premium price for. Varieties such as “Spartan” (very large fruit and early), “Ivanhoe” (incredible flavor, mid-season), “Chandler” (very

large fruit and excellent flavor), “Herbert” (very large fruit with excellent flavor), “Darrow” (my favorite flavored blueberry and very large fruit), “Elizabeth” (considered by many to be the best flavored blueberry anywhere), and “Legacy” (“Elizabeth” is one of its parents thus excellent flavored and a release from USDA in New Jersey) are all great options for the retail market. I would go so far to say that these are the Gourmet varieties. A grower won’t plant 100 acres of these varieties but a row of each will be highly appreciated by your clientele.

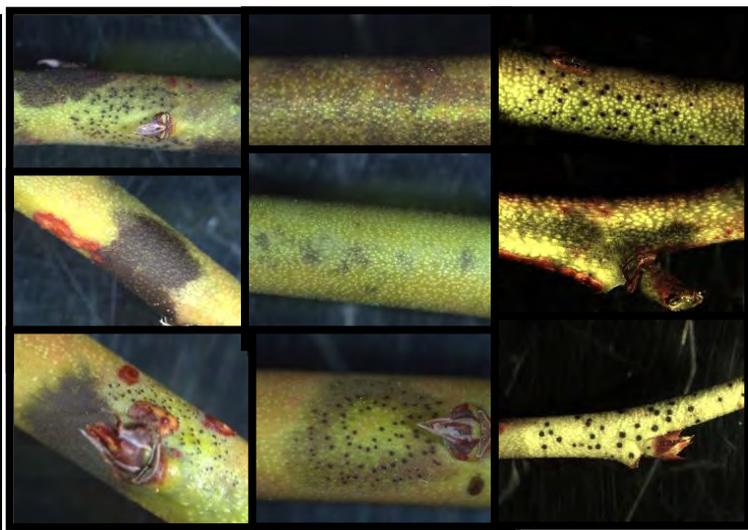
*Gary C. Paris*  
 Gary C. Paris, Ph.D.  
 Atlantic County Agricultural Agent

**BLACK SHADOW MANAGEMENT ON BLUEBERRIES FOR NEW JERSEY**

*Peter Oudemans, Small Fruit Pathology, Rutgers, The State University*



(Fig.1 )

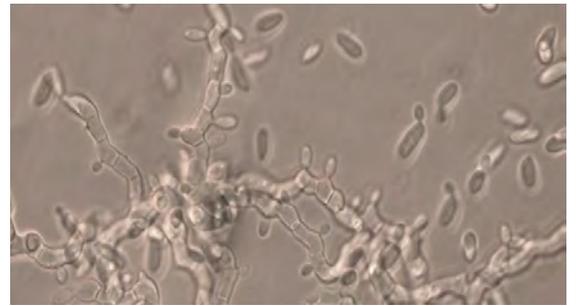


( Fig. 2)

Black shadow commonly known as sooty blotch is a widespread disease of the cultivated blueberry in New Jersey (Fig. 1). The symptoms generally appear as a discoloration of the stem, however, there are a number of different fungal species involved and each one produces consistent differences in symptomology (Fig. 2). At this stage we do not know which ones are the most destructive.



(Fig.3)



(Fig.4)

We have found spores of these pathogens in water droplets inside the canopy (Fig. 3). Since the majority of the pathogens are yeast-like, the spores are produced through budding (Fig. 4) spore production can occur over a long period of time.

The effects of the “black shadow” fungi on blueberry are complex and there is no established threshold for damage. In other words, we do not know what level of coverage or blackening results in a crop loss. However, it is clear that spread begins in late summer and continues throughout the fall and spread occurs from older tissues to the young (current season) tissues or infections may originate from other plant species such as pine, briar and possibly some deciduous species.

For chemical control of “black shadow” we have tested several fungicides against several of the black shadow fungi and have developed a “short list” of effective materials. These are all in field trials at three locations this season. These fungicides have not been used commercially for black shadow control and therefore recommendations are preliminary. The fungicides I have selected are as follows:

Fungicide	Usage information	Rates (approximate cost)
Proline	PHI = 7 days; REI = 12 hr; FRAC 3; 2 apps max/season	5.7 fl.oz./acre (\$4.90/fl.oz)

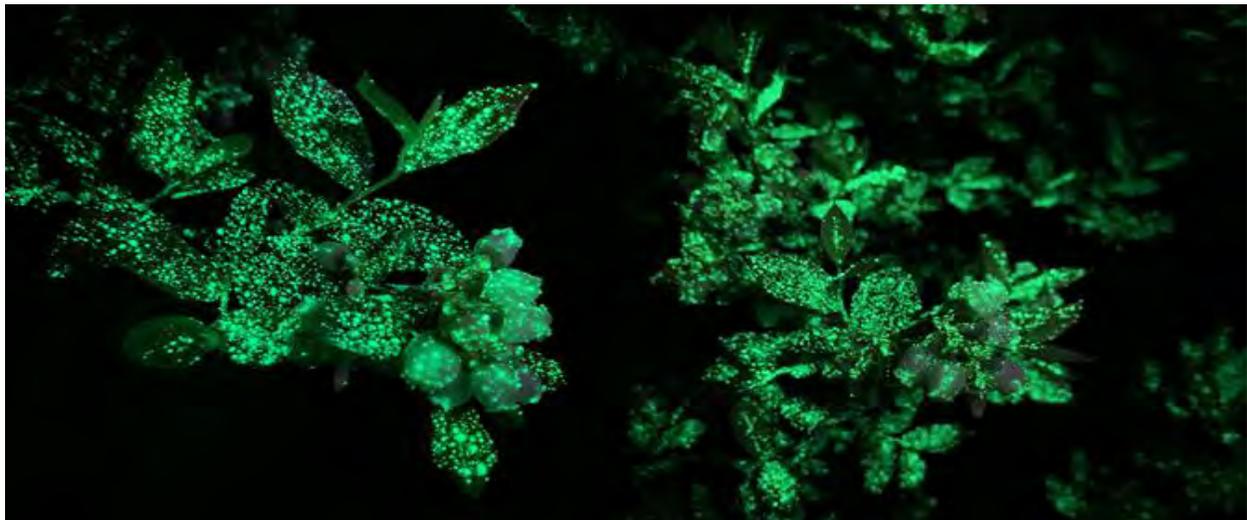
When spraying for black shadow it is very important to understand the target for control. The target includes those tissues in the canopy that you want to protect and achieve maximum coverage with fungicides. For this disease the susceptible tissues include the new growth where the majority of next years crop will be formed. In Fig. 5 you can clearly see the fresh green stems produced this growing season (circled in white). If you look carefully you may see some black shadow infection just beginning in some fields. The goal of a spray program targeting this disease is to optimize your spray pattern to cover these tissues and especially the stems. In Fig. 6 you can see how a much of the spray material is on the leaf tissue while in Fig. 7 both leaves and stems are covered. This effect can be achieved through adjusting the pressure and speed that the spray particles are delivered to the canopy. Typically a slower speed (i.e. lower pressure or buffered fan on air assisted sprayers such as air blast) will improved the amount of material covering the stem. This is critical since the materials will only be effective if they reach

the stems. It is possible to optimize your sprayer using various fluorescent dyes that are commercially available.

In terms of timing the recommendations will likely change, however, my best estimation at this stage is to apply twice with a 3-4 week interval. Mid-September a second application is recommended mid-October.



(Fig.5)



(Fig.6 &7)

We are currently examining the effect of pruning time and fertilizer application on Black Shadow development. These factors will affect the control strategy. Our findings this year suggest that controlling black shadow on the second flush of growth (growth after harvest) will reduce the spread from one season to the next.

*Cooperating Agencies:* Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and Boards of County Commissioners. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.