

BLUEBERRY (*Vaccinium corymbosum* 'Bluetta')  
Ripe Rot (Anthracnose); *Colletotrichum acutatum*  
Botrytis Blight; *Botrytis cinerea*

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### **Fungicide management of blueberry post-harvest fruit rot, 2022.**

Fungicide treatments were arranged in a randomized complete block design in a block of 'Bluetta' blueberries planted in 1999 on 5 x 10 ft spacing. Each treatment consisted of 6 single bush replicates. Fungicide treatments were applied using a hydraulic handgun sprayer at approximately 100 psi at a rate of 218 gal water/A. Approximately 1.5 gal of a spray suspension were applied per 6 bushes. Treatments were applied on 6 Apr (prebloom), 17 Apr (early bloom), 29 Apr (full to late bloom) (5.59 mm rain up to 9:00 pm), 13 May (petal fall to fruit set) (11.68 mm rain up to 9:00 pm), 27 May (fruit set), 9 Jun (beginning of color change) (3.05 mm rain up to 9:00 pm), and 24 Jun (pre-harvest). Each fungicide treated bush was flanked on each side by non-treated bushes. Bushes were pruned 21 Feb by thinning out small, dead and spindly shoots and removing older non-productive stems. Makaze (64 fl oz/A) plus Chateau (2 oz/A) were tank mixed and applied 20 Jan, then Makaze (32 fl oz/A) plus Weddar 64 (10 fl oz/A) were tank mixed and applied on 4 Mar for weed control. No insecticides were used during this trial. Fertilizer (21-0-0-24 (S)) was applied at 8 oz/plant on 19 Apr and at 4 oz/plant on 17 Jun. The number of collapsed floral clusters per bush with symptoms of Botrytis blight was evaluated on 10 May. Overhead irrigation was started on 28 Jun and continued twice per week for 2 hour sets during the growing season. Nets were placed over bushes on 27 Jun to reduce bird damage. On 11 Jul 100 healthy appearing, ripe berries were arbitrarily harvested from each bush. Berries were placed within moist chambers located in Cordley Hall. Berries were incubated at room temperature (66 to 68°F) for 10 days. The number of berries with symptoms of various rots were evaluated and removed each day.

Rainfall during the dormant season 2021-22 was 5.4 inches below normal but spring weather conditions were very wet with the second wettest spring on record. Collapsed floral clusters with symptoms of Botrytis blight were recognized on 9 May. Non-treated bushes had the most collapsed floral clusters, however, the number on bushes treated with SA-065004 alone, SA-065004/Switch/Kenja alternation, or ProBlad Verde alone was not significantly different. Bushes treated with BAS 752 had significantly fewer collapsed floral clusters than bushes treated with any other fungicide. In addition to fungi listed in Table 1 the following fungi were also observed on rotting fruit post harvest at highly variable frequencies: *Rhizopus* sp. and *Alternaria tenuissima*. Highest post harvest Botrytis blight was observed on fruit from bushes treated with ProBlad Verde alone, however, rot from non-treated bushes was not significantly different. Lowest post harvest Botrytis blight was found on fruit from bushes treated with BAS 752 but rot from bushes treated with SA-065004, Pristine or Sercadis was not significantly different. Although non-treated bushes had the most fruit rot due to ripe rot there was so much variation that there was no significant difference among the various treatments. Highest total rot was observed on fruit from non-treated bushes, however, rot from bushes treated with ProBlad Verde alone was not significantly different. Lowest total rot was found on fruit from bushes treated with BAS 752 but rot from bushes treated with SA-065004 alone, SA-065004/Switch alternation, Pristine/Switch/Kenja alternation, Pristine/ProBlad Verde/ Switch alternation or Sercadis was not significantly different. No phytotoxicity was observed on leaves or fruit from fungicide treated bushes.

Table 1. Fungicides for management of Botrytis blight and post-harvest fruit rots.

Treatment & Rate/A or /100 gal as indicated below	Time of application <sup>x</sup>	Collapsed Floral Clusters per bush <sup>y</sup>	Botrytis Blight <sup>z</sup> (%)	Ripe Rot (Anthracnose) <sup>z</sup> (%)	All Fruit Rots <sup>z</sup> (%)
Non-treated.....	None	52.7 a	28.2 ab	32.3	64.0 a
SA-065004 SC at 28 fl oz plus Nu-Film-P at 16 fl oz/100 gal.....	All	43.7 ab	12.5 c	7.7	23.0 bc
SA-065004 SC at 28 fl oz plus Nu-Film-P at 16 fl oz/100 gal then Switch 62.5 WG at 14 oz plus Nu-Film-P at 16 fl oz/100 gal then Kenja 400 SC at 15.5 fl oz plus Nu-Film-P at 16 fl oz/100 gal.....	A, B, D, G  C, F  E	    38.2 ab	    17.0 bc	    7.8	    28.2 b
SA-065004 SC at 28 fl oz plus Nu-Film-P at 16 fl oz/100 gal alternate Switch 62.5 WG at 14 oz plus Nu-Film-P at 16 fl oz/100 gal .....	A, B, D, E, G  C, F	   33.3 bc	   20.3 bc	   7.2	   30.5 b
Pristine DF at 23 oz plus Nu-Film-P at 16 fl oz/100 gal then Switch 62.5 WG at 14 oz plus Nu-Film-P at 16 fl oz/100 gal then Kenja 400 SC at 15.5 fl oz plus Nu-Film-P at 16 fl oz/100 gal.....	A, B  C, F, G  D, E	    14.0 d	    12.0 c	    3.3	    17.2 bc
ProBlad Verde at 45.7 fl oz plus Nu-Film-P at 16 fl oz/100 gal.....	All	35.7 ab	39.3 a	7.5	50.2 a
Pristine DF at 23 oz plus Nu-Film-P at 16 fl oz/100 gal then ProBlad Verde at 40 fl oz plus Nu-Film-P at 16 fl oz/100 gal then Switch 62.5 WG at 14 oz plus Nu-Film-P at 16 fl oz/100 gal.....	A, E  B, D, F  C, G	    25.7 c	    8.8 c	    9.7	    19.2 bc
Tesaris at 6.5 fl oz plus Dyne-amic at 12 fl oz/100 gal.....	All...	24.3 c	8.2 c	11.0	19.8 bc
BAS 752 at 7 fl oz plus Dyne-amic at 12 fl oz/100 gal.....	All....	7.3 e	5.2 c	3.7	11.0 c

<sup>x</sup> Treatments were applied on A = 6 Apr (pre-bloom), B = 17 Apr (early bloom), C = 29 Apr (full to late bloom), D = 13 May (petal fall to fruit set), E = 27 May (fruit set), F = 9 Jun (beginning of color change), and G = 24 Jun (pre-harvest).

<sup>y</sup> Analysis of variance was based on log (x+1) transformation. Means followed by the same letter do not differ significantly based on Fisher's protected LSD ( $P=0.05$ ).

<sup>z</sup> Means followed by same letter do not differ significantly based on Fisher's protected LSD ( $P=0.05$ ). Means without letters are not significantly different.