

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

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Fungicide management of blueberry fruit rots, 2015.

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 217 gal water/A. Approximately 1.5 gal of a spray suspension were applied per 6 bushes. Treatments were applied on 13 Mar (floral rosette with 1 or 2 open blooms), 20 Mar (30% bloom), 27 Mar (full bloom), 3 Apr, 10 Apr (start of petal fall), 17 Apr (petal fall), 23 Apr (end of bloom), 1 May (fruit set), 8 May (green fruit), 15 May, 22 May (fruit starting to color), 29 May, and 5 Jun (pre-harvest). Each fungicide treated bush was flanked on each side by nontreated bushes. Nu-Cop 50 DF (8 lb/A) was applied on 8 Nov 14 (>50% leaf drop) to help prevent bacterial blight. Bushes were pruned 30 Dec 14 to 5 Jan 15 by thinning out small, dead and spindly shoots and removing older non-productive stems. No insecticides were applied to this block this year. Makaze (generic glyphosate at 2.5 oz/gal) was applied on 20 Feb and again on 26 May to control weeds. Plots were fertilized on 6 Apr and 5 May with approximately 33 lb/A (based on in the bush row area) of ammonium sulfate 20-0-0-22 at each application. Overhead irrigation was started on 4 May and continued twice per week during the growing season. Nets were placed over bushes on 1 Jun to reduce bird damage. On 15 Jun, 100 healthy appearing, ripe berries were arbitrarily harvested from each Bluetta bush. Berries were placed within moist chambers located in Cordley Hall. Berries were incubated at room temperature for 10 days. The number of berries with symptoms of various rots were evaluated and removed each day.

Spring growing conditions were considered warm and dry resulting in accelerated plant development. Botrytis fruit rot was observed on green berries in the field on 3 Jun prior to harvest. In addition to ripe rot and Botrytis blight the following fungi were also observed on rotting fruit post harvest at highly variable frequencies: *Colletotrichum* sp., *Rhizopus* sp., *Fusarium* sp., and *Penicillium* sp. Only fruit from bushes treated with the combination of Proline, Pristine and CaptEvate developed significantly less ripe rot than fruit from nontreated bushes. Fruit from all fungicide treated bushes had significantly less Botrytis blight than fruit from nontreated bushes except for fruit from bushes treated 12 times with the high rate of Double Nickel. Lowest amount of Botrytis blight was found on fruit from bushes treated with Fontelis but the amount found on fruit from bushes treated with Proline/Pristine/CaptEvate, Oso, or the low rate of Double Nickel were not significantly different. Only bushes treated with the combination of Proline, Pristine and CaptEvate developed significantly less total rots than nontreated bushes. No phytotoxicity was observed on leaves or fruit from fungicide treated bushes.

Treatment & Rate/A or /100 gal as indicated below	Time of Application*	Ripe Rot (Anthracnose)** (%)	Botrytis Blight** (%)	All Fruit Rots** (%)
Nontreated	None.....	74.8 a	7.8 a	83.0 a
Proline 480 SC at 5.7 fl oz then Pristine WDG at 18.5 oz then CaptEvate at 4.5 lb.....	A C, E, M G, I, K.....	18.3 b	0.8 bc	23.3 b
Oso SC at 5.6 fl oz plus Induce at 6 fl oz/100 gal	A, C, E, G, I, K, M	72.2 a	2.2 bc	76.7 a
Oso SC at 5.6 fl oz plus Induce at 6 fl oz/100 gal	All (except L).....	67.0 a	1.0 bc	69.8 a
Double Nickel LC at 2 qt	All (except L).....	62.3 a	2.3 bc	67.3 a
Double Nickel LC at 4 qt	All (except L).....	70.2 a	4.3 ab	74.0 a
Fontelis at 16 fl oz plus Induce at 6 fl oz/100 gal	A, C, E, G, I, K, M	65.3 a	0.2 c	69.3 a

* Treatments were applied on A = 13 Mar (floral rosette with 1 or 2 open blooms), B = 20 Mar (30% bloom), C = 27 Mar (full bloom), D = 3 Apr, E = 10 Apr (start of petal fall), F = 17 Apr (petal fall), G = 23 Apr (end of bloom), H = 1 May (fruit set), I = 8 May (green fruit), J = 15 May, K = 22 May (fruit starting to color), L = 29 May and M = 5 Jun (pre-harvest).

** Means followed by same letter do not differ significantly based on Fisher's protected LSD ($P=0.05$). Analysis based on an arcsine square root transformation.