

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

J. W. Pscheidt and John P. Bassinette
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97331-2903

Fungicide management of blueberry fruit rots, 2012.

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 5 Apr (pre-bloom), 13 Apr (early bloom), 20 Apr (full bloom), 27 Apr, 2 May (late bloom), 15 May, 18 May (end of bloom) and 28 Jun (pre-harvest). Each fungicide treated bush was flanked on each side by nontreated bushes. Nu-Cop 50 DF (16 lb/A) was applied on 1 Nov 11 (40% leaf drop) to help prevent bacterial blight. Generic glyphosate (3%) plus Kinetic (4 fl oz/gal) was applied on 8 Mar and 30 May to control weeds. Generic glyphosate (4%) plus Kinetic (4 fl oz/gal) was also applied on 29 Jun to control weeds. Bushes were pruned 1 to 3 Jan by thinning out small, dead and spindly shoots and removing older non-productive stems. Plots were fertilized on 24 Apr and 21 May with approximately 200 lb/A (based on in the bush row area) of 21-0-0-24. Overhead irrigation was started on 20 Jun and continued 2 times per week during the growing season. Nets were placed over bushes on 29 Jun to reduce bird damage. On 6 Jul, 100 healthy appearing berries were arbitrarily harvested from each Bluetta bush. Berries were placed on wire racks within moist chambers located in Cordley Hall. Each moist chamber contained two arbitrarily selected treatments, (200 berries or 100 berries per treatment), separated by a wire mesh. 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 weather conditions in Western Oregon were considered normal to wet. Fruit rots were not observed in the field prior to harvest. In addition to ripe rot and Botrytis blight, *Alternaria sp.* and *Rhizopus sp.* were observed on rotting fruit at low or highly variable frequencies. The highest number of fruit rotting due to ripe rot was from nontreated bushes, however, the number of fruit with ripe rot that came from bushes treated with Regalia alone, Regalia alternated with Quash or Quash followed by Regalia was not significantly different. The highest number of fruit rotting due to Botrytis blight was from bushes treated with Regalia alone, however, the number of fruit with Botrytis blight that came from nontreated bushes or bushes treated with Regalia alternated with Quash or Quash followed by Regalia was not significantly different. Only fruit from bushes treated with Quash alternated with Abound plus Elevate or Regalia alternated with Abound plus Elevate had significantly less fruit rotting due to Botrytis blight than nontreated bushes. The highest total fruit rot was from bushes treated with Regalia, however, the total number of rotted fruit from nontreated bushes or bushes treated with Regalia alternated with Quash or Quash followed by Regalia was not significantly different. Lowest number of rotted fruit came from bushes treated with Quash alternated with Abound plus Elevate, however many other treatments with Quash or Abound plus Elevate at full bloom were not significantly different. Bushes treated with Regalia at 1 gal/A during bloom had subtle necrotic flower spots. No phytotoxicity was observed on any other fungicide treated bushes.

Treatment & Rate/A	Time of Application*	Ripe Rot (Anthracnose) (%)**	Botrytis Blight (%)**	All Fruit Rots (%)**
Nontreated	None.....	25.3 a	17.0 abcd	57.2 a
Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal	A, C, E, G, H..	1.5 b	10.5 bcde	22.5 bc
Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal ALT... Abound at 15.5 fl oz plus Elevate 50 WDG at 1.5 lb.....	A, E, H C, G.....	0.5 b	3.5 e	9.5 c
Regalia at 1 gal.....	All.....	21.3 a	28.2 a	60.8 a
Regalia at 0.5 gal ALT..... Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal	A, D, G B, E, H.....	8.0 ab	22.3 ab	40.2 ab
Regalia at 0.5 gal ALT..... Abound at 15.5 fl oz plus Elevate 50 WDG at 1.5 lb.....	A, D, G B, E, H.....	2.5 b	3.5 e	22.2 bc
Regalia at 0.5 gal Then..... Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal ALT... Abound at 15.5 fl oz plus Elevate 50 WDG at 1.5 lb.....	A B, F D, H.....	2.7 b	5.0 de	16.5 c
Regalia at 1 gal THEN..... Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal	A, B C, E, G, H.....	1.2 b	7.3 cde	12.5 c
Quash 50 WDG at 2.5 oz plus Regulaid at 32 fl oz/100 gal THEN .. Regalia at 1 gal	A C, D, E, F, G, H	16.7 ab	18.0 abc	55.7 a

^x Treatments were applied on A = 5 Apr (pre-bloom), B = 13 Apr (early bloom), C = 20 Apr (full bloom), D = 27 Apr, E = 2 May (late bloom), F = 15 May, G = 18 May (end of bloom) and H = 28 Jun (pre-harvest). In general any application of Regalia was followed in 7 days with another fungicide application. All other fungicide applications were followed in two weeks with another fungicide application.

** Means followed by same letter do not differ significantly based on Fisher's protected LSD (P=0.05).