

APPLE (*Malus domestica* 'Johnathan')  
 Scab; *Venturia inaequalis*  
 Powdery Mildew; *Podosphaera leucotricha*

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SERENADE AND RALLY FOR CONTROL OF APPLE POWDERY MILDEW AND SCAB, 2001: Fungicide treatments were arranged in a randomized complete block design in a block of 'Jonathan' apples planted in 1954 on 20 x 20 ft spacing. Each treatment consisted of 4 single tree replicates. Fungicide treatments were applied using a hydraulic handgun sprayer at 100 psi at a rate of 200 gal water/A. Approximately 7-8 gal of a spray suspension were applied per 4 trees depending on the time of year. Treatments were applied on 4 Apr (89% prepink), 13 Apr (73% pink), 27 Apr (70% full bloom), 4 May (90% petal fall), 18 May (1<sup>st</sup> cover), 25 May (2<sup>nd</sup> cover), 8 Jun (3<sup>rd</sup> cover), and 16 Jun (4<sup>th</sup> cover). No fertilizer was applied during the growing season. Insecticides were applied to the entire block using a Rear's air blast speed sprayer on 22 May (Diazinon 50W 2 lb/A), 13 Jun (Diazinon 50W 4 lb/A), and 14 Aug (Success 8 oz/A) for leaf roller and codling moth management. Roundup Ultra (2 qt/A) tank mixed with Goal 2xl (3 qt/A) was applied to control weeds in the tree row floor on 15 Feb. An application of Gramoxone xtra (2 qt/A) tank mixed with R-11 (1/2%) was applied 17 May to suppress reemerging weeds. The incidence of powdery mildew was determined on 10 Jul by examining all leaves from 20 vegetative shoots (395-521 leaves) randomly selected from the lower portion of each tree. Incidence of fruit scab and russet was evaluated on 28 Sep and 4 Oct by picking and examining 200 fruit/tree.

Spring weather conditions in Western Oregon were considered dry with 50% below normal rainfall. All fungicide treated trees had significantly less apple scab, powdery mildew and russeted fruit than nontreated trees. There were no significant differences in apple scab, powdery mildew or russeted fruit among the various treatments including Rally used alone. All of the QRD materials foamed to some extent when mixed with water. The QRD 132 and QRD 137 materials were excessively foamy, to the point that significant material would have been suspended in the foam, and not go in to solution without extensive rinsing of spray solution through the foam. No phytotoxicity was observed on any trees treated with any fungicide.

Treatment & Rate/A	Time of Application	Apple Scab Fruit (%)*	Powdery Mildew Leaves (%)*	Fruit Russet (%)*
Nontreated .....	none .....	7.4 a	33.3 a	64.4 a
Rally 40 W 5 oz.....	All.....	0.4 b	0.2 b	39.3 b
QRD 137 WP at 6 lb alternate...	PP, FB, C1, C3			
Rally 40 W 5 oz .....	P, PF, C2, C4	0.6 b	0.5 b	43.9 b
QRD 137 WP at 8 lb alternate...	PP, FB, C1, C3			
Rally 40 W 5 oz .....	P, PF, C2, C4	0.3 b	0.4 b	45.9 b
QRD 132 WP at 8 lb alternate...	PP, FB, C1, C3			
Rally 40 W 5 oz .....	P, PF, C2, C4	0.6 b	1.1 b	50.0 b
QRD 131 AS 2 gal alternate.....	PP, FB, C1, C3			
Rally 40 W 5 oz .....	P, PF, C2, C4	0.1 b	1.1 b	48.3 b

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