

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

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

Evaluation of Dolphinet for management of apple scab and powdery mildew on Rome, 2015

Fungicide treatments were arranged in a randomized complete block design in a block of 'Rome' apples on M-7 rootstock planted in 1979 on 20 x 20 ft spacing. Each treatment consisted of 4 single tree replicates. Fungicide treatments were applied using a hydraulic handgun sprayer at approximately 100 psi such that 5 to 6 gal of a spray suspension were applied per 4 trees (136 to 164 gal/A) depending on the time of year. Treatments were applied on 15 Apr (tight cluster), 29 Apr (full bloom), 12 May (petal fall), 27 May (1st cover) and 9 Jun (2nd cover). No fertilizer was spread within tree rows. A dormant oil spray of Omni supreme-oil (1.5 gal/A) was applied on 18 Feb for aphid and mite control. Asana XL (5 fl oz/A) was applied on 21 May and Success (7.5 fl oz/A) was applied 16 Jun for aphid and codling moth management. Insecticide sprays were applied to the entire block using a Rear's air blast speed sprayer. GoalTender (105 fl oz/A) plus Makaze (3 qt/A) was applied on 17 Feb and Reckon 280 SL (2 qt/A) was applied 15 May and Forefit 280 (2 qt/A) was applied on 16 Jun for weed control. Apple scab infection periods were monitored using an Adcon A730 weather station equipped with standard sensors. Using a modified primary infection model (wet periods start with rain and end with 8 hr drying time), a total of 2 infection periods were detected from mid Apr through Jun: 2 moderate infection periods (11 and 31 May). The incidence of leaf scab and powdery mildew was determined on 30 Jun, by examining all leaves from 20 arbitrarily selected vegetative shoots (244 to 302 leaves for an average of 275) from each tree. Incidence of scab on fruit and fruit russet was determined on 7 Aug by examining 100 fruit arbitrarily selected from each tree.

Spring growing conditions were considered warm and dry resulting in lower than normal scab pressure but high powdery mildew pressure. Shoots covered with powdery mildew due to infection the previous year were observed on 20 Apr. Powdery mildew infection of new leaves was observed on 27 Apr. Scab was first observed on nontreated crabapple trees in a nearby block on 6 Apr and in this block after 27 Apr. All fungicide treated trees had significantly fewer leaves with scab or powdery mildew or russeted fruit than nontreated trees. There were no significant differences among the various treatments with respect to leaf scab. There were no significant differences among all treatments with respect to fruit scab including nontreated trees. There were no significant differences among the various treatments with respect to leaf powdery mildew. There were no significant differences among the various treatments with respect to fruit russet. There was no significant difference in disease between the various rates of Dolphinet used. No phytotoxicity was observed in trees treated with any of the various materials used.

Treatment & Rate/A or /100 gal as indicated below	Time of Application*	Apple Scab**		Powdery Mildew	Fruit Russet
		Leaves (%)	Fruit (%)	Leaves (%)**	(%)**
Nontreated	None	8.5 a	3.0	85.8 a	51.0 a
Fontelis at 20 fl oz plus					
Koverall 75 WG at 3 lb plus					
Induce at 32 fl oz/100 gal	A, C, E				
alternate					
Procure 480 SC at 12 fl oz plus					
Koverall 75 WG at 3 lb plus					
Induce at 32 fl oz/100 gal ...	B, D.....	1.3 b	0.3	15.5 b	30.0 b
Dolphinet SC at 28.9 fl oz plus					
Koverall 75 WG at 3 lb plus					
Induce at 32 fl oz/100 gal	All.....	3.0 b	1.5	37.5 b	25.8 b
Dolphinet SC at 43.4 fl oz plus					
Koverall 75 WG at 3 lb plus					
Induce at 32 fl oz/100 gal	All.....	2.8 b	1.5	21.3 b	24.8 b
Dolphinet SC at 57.8 fl oz plus					
Koverall 75 WG at 3 lb plus					
Induce at 32 fl oz/100 gal	All.....	2.3 b	0.8	20.0 b	27.0 b

* Treatments were applied on A = 15 Apr (tight cluster), B = 29 Apr (full bloom), C = 12 May (petal fall), D = 27 May (1st cover), and E= 9 Jun (2nd cover).

**Means followed by the same letter do not differ significantly based on Fisher's protected LSD ($P=0.05$). Means without letters do not differ significantly.