

Evaluation of fall applied fungicides for control of eastern filbert blight, 2008 - 2009.

Healthy appearing, rooted, one-year-old 'Ennis' hazelnut shoots were cut and transplanted into a field located at the Botany and Plant Pathology Field Laboratory 16 Nov 06. Trees were grown in this location for another year to increase size and branching. Orbit (2.5 fl oz/100 gal) was applied to several trees before dormancy on 27 Sep 07. Nontreated and fall treated trees were transplanted on 17 Jan 08 to the North Willamette Research and Extension Center, Aurora, OR. Treatments and trees were arranged in a randomized complete block design. Each treatment consisted of 6 single tree replicates. Limbs with EFB cankers were cut from a heavily diseased 'Ennis' orchard near Keiser, OR on 12 Dec 07. A total of 400 cankered limbs were placed above test trees on chicken wire, supported by a 6 wire horizontal trellis, on 28 Feb 08. Fungicides were applied to trees from two directions until runoff using a Solo backpack pump style sprayer. Approximately 0.4 gal of a spray suspension was used per 6 trees. Spring fungicide treatments were applied on 19 Mar 08 (bud break), 1 Apr 08, 15 Apr 08 and 28 Apr 08 for a total of 4 spring applications. Sucker shoots were killed on treatment trees using Rely (60 oz/A) on 8 May and 12 Jun 08. Roundup ULTRAMAX (2 qt/100 gal) plus Oryzalin (1 qt/100 gal) plus GoalTender (3 oz/100 gal) was applied to control weeds between trees on 6 May 08. Preen (6 lb/1,000 sq ft, with fertilizer 9-17-9) was used 4 Jun 08 for weed control followed by Roundup ULTRAMAX (2 qt/100 gal) plus Rely (60 oz/A) on 12 Jun 08 and 7 Aug 08. Last application of herbicide for the year was Goal Tender (6 oz/100 gal) plus Honcho (4 oz/100 gal) on 26 Sep 08. Trees were fertilized with 46-0-0 at a rate of 0.8 lb/6 trees on 19 Jun 08. Supplemental irrigation was provided as needed during the 2008 growing season. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 6 Aug 09.

There were no significant differences between any of the various treatments. This does not allow us to make any conclusions regarding these treatments. Canker numbers were slow to develop and uncharacteristically low even for nontreated trees. Although spore counts were considered low the amount was similar to last year when check trees had several cankers per tree. Since 'Ennis' trees are susceptible the weather may have had an influence on infection levels. The spring was characterized as cold with most crops, including hazelnuts, 2 weeks later than normal in growth and development throughout the growing season. Further analysis is warranted since the only other year a similar result occurred was during the 1999 infection season.

Treatment and Rate/100 gal water	Fall Application*	Spring Application*	Ave Number of Cankers/Tree**	Total Canker Length/Tree** (cm)
Nontreated	---	---	0.8	16.0
Orbit 3.6 EC at 2.5 fl oz	XX	---	0.5	9.2
Orbit 3.6 EC at 2.5 fl oz	---	XXXX	0.5	10.5
Bravo Weather Stik at 32 fl oz....	---	XXXX	0.3	5.7
Orbit 3.6 EC at 2.5 fl oz	XX	XXXX	0.2	2.5
Orbit 3.6 EC at 2.5 fl oz then Bravo Weather Stik at 32 fl oz....	XX	XXXX	0.5	9.2

* Fall Orbit applications occurred before dormancy on 27 Sep 07. Spring fungicide treatments were applied on 19 Mar 08 (bud break), 1 Apr 08, 15 Apr 08 and 28 Apr 08.

** Analysis of variance is based on log₁₀ (x+1) transformation. Means did not differ significantly based on Fisher's protected LSD (P=0.05).