

Evaluation of fall applied fungicides for control of eastern filbert blight, 2006 - 2008.

Healthy appearing, rooted, one-year-old 'Ennis' hazelnut shoots were cut and transplanted into a field at the Botany and Plant Pathology Field Laboratory during Nov 05. Trees were grown in this location for another year to increase size and branching. Orbit (2.5 oz/100 gal) was applied to several trees before dormancy on 22 Sep 06 and again on 9 Oct 06. Nontreated and fall treated trees were transplanted on 25 to 26 Jan 07 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 6 Dec 06. A total of 400 cankered limbs were placed above test trees on chicken wire, supported by a 6 wire horizontal trellis, on 23 Feb 07. Fungicides were applied to trees from two directions until runoff using a Solo backpack sprayer. Approximately 0.6 gal of a spray suspension was used per 6 trees. Spring fungicide treatments were applied on 14 Mar 07 (bud break), 29 Mar 07, 12 Apr 07 and 26 Apr 07 for a total of 4 spring applications. Sucker shoots on treatment trees were sprayed with Rely (60 oz/A) on 15 May and 10 Aug 07. Roundup ULTRAMAX (1.5 qt/A) plus Oryzalin (2 qt/A) plus GoalTender (3 qt/A) was applied to control weeds between trees on 30 Apr 07. Roundup ULTRAMAX (1.5 qt/A) plus GoalTender (3 qt/A) was applied to control weeds on 7 May 07. Preen (1 oz/10 sq ft) was used 17 and 23 May 07 for weed control as well as Roundup ULTRAMAX (1.5 qt/A) plus Dual (6 oz/A) on 9 Aug 07. Trees were fertilized with 16-16-16-7 at a rate of 40 oz/8 trees on 23 May 07. Supplemental irrigation was provided as needed during the 2007 growing season. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 9 Jul 08.

The number of cankers on trees treated only in the fall with Orbit was not significantly different than the number of cankers on nontreated trees. The number of cankers on trees treated only in the spring with Orbit or Bravo was significantly lower than the number of cankers on nontreated trees. Treating trees in the fall with Orbit did not appear to have a significant effect on the number of EFB cankers per tree.

Treatment and Rate/100 gal water	Fall Application*	Spring Application*	Ave Number of Cankers/Tree**	Total Canker Length/Tree** (cm)
Nontreated	---	---	3.8 a	48.0 a
Orbit 3.6 EC at 2.5 fl oz	XX	---	3.8 a	48.5 a
Orbit 3.6 EC at 2.5 fl oz	---	XXXX	0.2 b	1.3 b
Bravo Weather Stik at 32 fl oz.....	---	XXXX	0.0 b	0.0 b
Orbit 3.6 EC at 2.5 fl oz	XX	XXXX	0.5 b	5.3 b
Orbit 3.6 EC at 2.5 fl oz then Bravo Weather Stik at 32 fl oz....	XX	XXXX	0.0 b	0.0 b

* Fall Orbit applications occurred before dormancy on 22 Sep 06 and again on 9 Oct 06. Spring fungicide treatments were applied on 14 Mar 07 (bud break), 29 Mar 07, 12 Apr 07 and 26 Apr 07.

** Analysis of variance is based on log₁₀ (x+1) transformation. Means followed by the same letter do not differ significantly based on Fisher's protected LSD (P=0.05).