

HAZELNUT (*Corylus avellana* 'Ennis')
Eastern Filbert Blight; *Anisogramma anomala*

J.W. Pscheidt, S. Heckert, and S.A. Cluskey
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97331-2903

Evaluation of fungicides for control of eastern filbert blight, 2011 - 2012.

Healthy appearing two-year-old 'Ennis' hazelnut trees were planted on 19 Jan 11 at the Botany and Plant Pathology Field Laboratory, Corvallis, OR. Limbs with EFB cankers were cut on 2 Nov 10 from heavily diseased 'Ennis' trees located at the NWREC. A total of 400 cankered limbs were placed above test trees on chicken wire, supported by a 6 wire horizontal trellis, on 3 Mar 11. Treatments were arranged in a randomized complete block design. Each treatment consisted of 8 single tree replicates. Fungicides were applied to trees from two directions, until runoff, using a Solo-Pump-Style backpack sprayer. Approximately 0.25 gal of a spray suspension was used per 8 trees within each treatment. Fungicide treatments were applied on 22 Mar 11 (bud break), 4 Apr 11, 18 Apr 11, and 3 May 11 for a total of 4 applications. Sucker shoots were killed on treatment trees using Rely (25 oz/10 gal water) on 24 May 11. Buccaneer (1 qt/A) was applied on 24 Aug for weed control. Trees were fertilized with 46-0-0 at a rate of 0.5 lb/6 trees on 6 Apr 11, again on 26 Jul 11 and with 16-16-16+6S at a rate of 0.5 lb/6 trees on 3 Jun 11. Supplemental irrigation was provided as needed during the 2011 growing season. Plant growth regulation effects on shoots and phytotoxicity were evaluated on 2 Jun 11 where 0 = no effect, 1 = slight effect that is not obvious, 2 = obvious darker green leaves and shortened internodes, 3 = Deep green leaves and shortened shoots but no necrosis, 4 = intense symptoms with marginal burning, leaf necrosis and/or possible dead shoots. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 2 Aug 12.

Spring weather conditions in Western Oregon were considered cool and wet resulting in slow crop development and a 2 to 3 week delay in crop growth stages through the growing season. The number of cankers on trees treated with Evito or Vivando was not significantly different from the number of cankers on nontreated trees. The number of cankers on trees treated with Bravo were not significantly different from the number of cankers on most other fungicide treated trees with the exception of trees treated with Evito or Vivando. The fewest cankers developed on trees treated with the high rate of DPX-YT669 plus Regulaid, however, cankers on trees treated with the low rate of DPX-YT669 plus Regulaid, DPX-Q8Y78 plus Regulaid or Tebuzol were not significantly different. Obvious growth regulation activity was observed on trees treated with Tilt, TopGuard or Tebuzol. Significant marginal burning was observed on trees treated with Tebuzol or the high rate of TopGuard. Although trees treated with DPX-YT669 plus Regulaid or with DPX-Q8Y78 plus Regulaid did not have PGR, leaves developed a general and marginal yellowing. Leaves treated with DPX-Q8Y78 plus Regulaid generally stayed green but with yellow margins. Surfactant is not allowed on the TopGuard label. Based on data in another trial, it will be recommended not to use silicone based surfactants with Tebuzol.

Treatment and Rate/100 gal water	Ave Number of Cankers/Tree*		Total Canker Length/Tree* (cm)		Growth Regulation Effect and/or phytotoxicity**	
					2 Jun	
Nontreated	6.4	a	225	a	0.3	de
Bravo Weather Stik at 2 pt.....	3.5	bc	74	cd	0.4	cde
Tilt at 4 fl oz	3.9	bc	96	cd	2.3	b
TopGuard 125 SC at 6 fl oz plus Silwet L-77 at 6.4 fl oz.....	3.3	cd	76	cde	2.4	b
TopGuard 125 SC at 12 fl oz plus Silwet L-77 at 6.4 fl oz.....	3.3	bc	69	cd	4.0	a
Tebuzol 45 DF at 4 fl oz plus Silwet L-77 at 6.4 fl oz.....	2.5	cde	56	cd	4.0	a
Unicorn DF at 3 lb.....	3.1	bc	79	bc	0.5	cde
Evito 480 SC at 5.7 fl oz plus Kinetic at 6 fl oz.....	4.8	ab	165	ab	0.1	e
Vivando 300 SC at 7.7 fl oz plus Sylgard 309 at 3.84 fl oz.....	5.8	a	208	a	0.1	e
Merivon 500 SC at 2.5 fl oz plus Sylgard 309 at 3.84 fl oz.....	3.0	cd	64	cd	0.3	de
DPX-YT669 at 12 fl oz	3.6	bc	85	cd	0.3	de
DPX-YT669 at 8 fl oz plus Regulaid at 1 qt	1.6	de	44	cde	0.5	cde
DPX-YT669 at 12 fl oz plus Regulaid at 1 qt	2.9	cd	47	cde	0.9	c
DPX-YT669 at 16 fl oz plus Regulaid at 1 qt	1.5	e	27	e	0.5	cde
DPX-Q8Y78 at 24 fl oz plus Regulaid at 1 qt.....	2.1	cde	42	de	0.8	cd

* 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).

** Plant growth regulation effects of shoots where 0 = no effect, 1 = slight effect that is not obvious, 2 = obvious darker green leaves and shortened internodes, 3 = Deep green leaves and shortened shoots but no necrosis, 4 = intense symptoms with marginal burning, leaf necrosis and/or possible dead shoots.