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

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

**Evaluation of fungicide programs for control of eastern filbert blight, 2007 - 2008.**

Healthy appearing two-year-old 'Ennis' hazelnut trees were planted on 25 to 26 Jan 07 at the North Willamette Research and Extension Center, Aurora, OR. 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. 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 backpack sprayer. Approximately 0.8 gal of a spray suspension was used per 8 trees. 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 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 and 19 Jun 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 and 10 Jul 08.

Spore counts were high during the first two weeks of April but declined after that time. Many treatments were effective at limiting canker development or preventing them altogether. The standard treatment of Bravo Weather Stik (chlorothalonil) averaged 0.1 canker/tree while all other treatments were not significantly different except Cabrio alternated with Procure. However, trees treated with Cabrio alternated with Procure had significantly fewer cankers than nontreated trees. After several years of testing it does not seem to be important as to which fungicide is used in any particular order, as long as effective fungicides are used.

| Treatment and Rate/100 gal water | Application Timing** | Ave Number of Cankers/Tree* | | Total Canker Length/Tree* (cm) | |
|---|---|---|---|---|---|
| Nontreated ……...……... | None | 4.8 | a | 72.8 | a |
| Bravo Weather Stik at 32 fl oz……. | All 4 apps…….. | 0.1 | c | 2.1 | c |
| Bravo Weather Stik at 32 fl oz then | Bud Break | | | | |
| Gem 500 SC at 1.5 oz then | 2 wks later | | | | |
| Orbit 3.6 EC at 4 fl oz then | 4 wks later | | | | |
| Cabrio 20 EG at 4.75 oz plus | 6 wks later | | | | |
| Silwet L-77 at 6.4 fl oz……... | 6 wks later……. | 0.0 | c | 0.0 | c |
| Bravo Weather Stik at 32 fl oz then | Bud Break | | | | |
| Orbit 3.6 EC at 4 fl oz then | 2 wks later | | | | |
| Cabrio 20 EG at 4.75 oz plus | 4 wks later | | | | |
| Silwet L-77 at 6.4 fl oz then | 4 wks later | | | | |
| Procure 480 SC at 4 fl oz…….. | 6 wks later ……. | 0.1 | c | 1.8 | c |
| Cabrio 20 EG at 4.75 oz plus | | | | | |
| Silwet L-77 at 6.4 fl oz then | BB & 4 wks | | | | |
| Orbit 3.6 EC at 4 fl oz …….. | 2 & 6 wks…….. | 0.1 | c | 1.8 | c |
| Orbit 3.6 EC at 4 fl oz then | BB & 4 wks | | | | |
| Cabrio 20 EG at 4.75 oz plus | | | | | |
| Silwet L-77 at 6.4 fl oz……... | 2 & 6 wks…….. | 0.0 | c | 0.0 | c |
| Procure 480 SC at 4 fl oz then | BB & 4 wks | | | | |
| Cabrio 20 EG at 4.75 oz plus | | | | | |
| Silwet L-77 at 6.4 fl oz……... | 2 & 6 wks…….. | 0.0 | c | 0.0 | c |
| Procure 480 SC at 4 fl oz then | BB & 4 wks | | | | |
| Gem 500 at 1.5 oz ……... | 2 & 6 wks…….. | 0.4 | bc | 7.3 | c |
| Cabrio 20 EG at 4.75 oz plus | BB & 4 wks | | | | |
| Silwet L-77 at 6.4 fl oz then | | | | | |
| Procure 480 SC at 4 fl oz…….. | 2 & 6 wks…….. | 0.6 | b | 11.8 | b |

* Analysis of variance is based on log10 (x+1) transformation. Means without any letters did not differ significantly.

** Fungicide treatments were applied on BB = Bud Break (14 Mar 07), 2 wks = 2 weeks after bud break (29 Mar 07), 4 wks = 4 weeks after bud break (12 Apr 07), and 6 wks = 6 weeks after bud break (26 Apr 07).