

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

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### **Evaluation of fungicide programs for control of eastern filbert blight, 2006 - 2007.**

Healthy appearing two-year-old 'Ennis' hazelnut trees were planted on 24 Jan 06 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 15 Nov 05 and 6 Dec 05. A total of 400 cankered limbs were placed above test trees on chicken wire, supported by a 6 wire horizontal trellis, on 27 Feb 06. Treatments were arranged in a randomized complete block design. Each treatment consisted of 4 single tree replicates. Fungicides were applied to trees from two directions until runoff using a Solo-Pump-Style backpack sprayer. Approximately 0.4 gal of a spray suspension was used per 4 trees. Fungicide treatments were applied on 18 Mar 06 (bud break), 30 Mar 06, 13 Apr 06 and 27 Apr 06 for a total of 4 applications. Roundup ULTRAMAX (2% solution) was applied to control weeds between trees on 28 Mar 06 and 5 May 06. Trees were fertilized with Urea (46-0-0) at a rate of 1 lb/8 trees on 22 May 06. Supplemental irrigation was provided as needed during the 2006 growing season. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 23 and 24 Jul 07.

Spore counts were low during the March and April but began to rise during May. It is unknown why canker numbers were high on fungicide treated trees. Due to this high variation there were no significant differences among the various treatments including the non-treated control. Few if any conclusions can be drawn from this data set. There were trends in the data but these were not significant. For example, trees treated more times with Bravo tended to have better disease control (an average of 3.8 cankers without Bravo, 2.8 cankers with 2 applications, 2 cankers with 3 applications and 1.8 cankers with 4 applications). Also, disease control tended to be better when Bravo was used last when compared to when Orbit was used last (an average of 2 cankers vs. 3.8 cankers).

Treatment and Rate/100 gal water	Application Timing**	Ave Number of Cankers/Tree*	Total Canker Length/Tree* (cm)
Nontreated .....	None	3.3	54.1
Bravo Weather Stik at 32 fl oz.....	BB, 2 & 4 wks only...	2.0	34.0
Bravo Weather Stik at 32 fl oz.....	All 4 apps.....	1.8	27.4
Orbit 3.6 EC at 2.5 fl oz .....	All 4 apps.....	3.8	50.3
Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz then Orbit 3.6 EC at 2.5 fl oz then Cabrio 20 EG at 4.75 oz.....	Bud Break 2 wks later 4 wks later 6 wks later.....	2.2	30.2
Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz then Cabrio 20 EG at 4.75 oz then Orbit 3.6 EC at 2.5 fl oz .....	Bud Break 2 wks later 4 wks later 6 wks later.....	2.3	29.2
Bravo Weather Stik at 32 fl oz then Orbit 3.6 EC at 2.5 fl oz .....	BB & 2 wks 4 & 6 wks.....	4.5	61.2
Orbit 3.6 EC at 2.5 fl oz then Bravo Weather Stik at 32 fl oz.....	BB & 2 wks 4 & 6 wks.....	2.0	22.1
Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz .....	BB & 2 wks 4 & 6 wks.....	2.8	48.0
Flint 50 WG at 1 oz then Bravo Weather Stik at 32 fl oz .....	BB & 2 wks 4 & 6 wks.....	2.2	36.8
Flint 50 WG at 1 oz then Orbit 3.6 EC at 2.5 fl oz .....	BB & 2 wks 4 & 6 wks.....	3.2	37.6
Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz then Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz .....	Bud Break 2 wks later 4 wks later 6 wks later.....	2.7	38.6
Bravo Weather Stik at 32 fl oz then Orbit 3.6 EC at 2.5 fl oz then Bravo Weather Stik at 32 fl oz then Orbit 3.6 EC at 2.5 fl oz .....	Bud Break 2 wks later 4 wks later 6 wks later.....	2.3	51.3
Flint 50 WG at 1 oz then Orbit 3.6 EC at 2.5 fl oz then Flint 50 WG at 1 oz then Orbit 3.6 EC at 2.5 fl oz .....	Bud Break 2 wks later 4 wks later 6 wks later.....	5.0	71.9

\* Analysis of variance is based on log<sub>10</sub> (x+1) transformation. Means without any letters did not differ significantly.

\*\* Fungicide treatments were applied on BB = Bud Break (18 Mar 06), 2 wks = 2 weeks after bud break (30 Mar 06), 4 wks = 4 weeks after bud break (13 Apr 06), and 6 wks = 6 weeks after bud break (27 Apr 06).