

HAZELNUT (*Corylus avellana* ‘Ennis’ and ‘Butler’)
Eastern Filbert Blight; *Anisogramma anomala*

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

Whole orchard evaluation of fungicides for control of eastern filbert blight, 2004.

The goal of this trial is to evaluate fungicides for EFB control and yield protection on mature, commercial sized hazelnut trees (rather than 2-3 year old transplants). A 1 acre block of Ennis hazelnuts with Butler pollenizers (every 3rd tree in every 3rd row) planted in 1986 was selected at the Botany and Plant Pathology Field Laboratory. Trees had been planted on a 10 X 20 foot spacing but every other tree was removed in Dec 99 for a final spacing of 20 X 20 feet. This block was selected since it had been sprayed 2 to 3 times each year with chlorothalonil since 2000 for EFB before any known infections had occurred. Recently discovered cankers in a nearby block planted at the same time with identical stock indicate that these trees have been exposed to ascospores each year since 2001 or 2002. In the spring of 2004, a fungicide trial was established in this block. Treatments were arranged in a randomized complete block design. Each treatment consisted of 4 blocks (replicates) containing a group of 9 trees, 8 Ennis and 1 Butler. Each set of 9 trees was composed of 3 consecutive trees in a row and 3 consecutive rows. Fungicide treatments consisted of nontreated trees, trees treated with the standard 3 applications of Bravo Weather Stik at 32 fl oz/100 gal water, and trees treated with the best management practice. For 2004, the best management practice consisted of an application of Bravo Weather Stik (32 fl oz/100 gal water) at bud break, Flint 50 WG (1 oz/100 gal water) 2 weeks after bud break and Orbit (4 fl oz/100 gal water) 4 weeks after bud break. Fungicides were applied using a hydraulic handgun sprayer at 150 psi and at a rate of 212 to 250 gal water/A depending on time of year. Approximately 17.5 to 21 gal of a spray suspension were applied per set of 9 trees. Fungicide treatments were applied on 17 Mar 04 (bud break), 31 Mar 04 and 15 Apr 04. Roundup Ultramax (2 qt/A) was used between trees to control weeds on 22 Apr 04. Tetrasul 4S5 (27% lime sulfur) was applied at 2.5 gal/A on 26 Apr for control of big bud mite. Asana XL (14 oz/A) was applied on 9 Jul for filbert worm control. Plots were harvested on 27-28 Sep 04 by raking nuts into windrows, shoveling windrowed nuts onto trailers and then slowly shoveling nuts into and through a Mave Hazelnut Harvester. The harvester was designed to allow soil and dirt to fall between conveyor belt chains and to blow or suck away leaves, husks and some blank nuts. Nuts were then conveyed into 50 lb sacks and weighed 29 Sep 04. A set of 100 nuts collected from the ground from throughout the orchard was weighed on the day of collection and again 16 days later after drying at ambient temperature (66 to 86 F). Scouting for EFB cankers will occur during the 04 - 05 dormant season.

Cankers of eastern filbert blight have not yet been observed in this block. Cankers were found in a nearby block of identical trees during the summer of 2004. Oldest cankers were 2 years old indicating initial infection during the spring of 2001 or 2002. Average yield per tree was not significantly different among the various treatments. Based on nut weight before and after drying, nuts had 17.5% moisture. Future analysis will be based on the difference in yield between years using the same sets of trees.

Treatment and Rate/100 gal water	Ave Yield/Tree* (lbs)
Nontreated	41.3
Bravo Weather Stik at 32 fl oz.....	38.4
Bravo Weather Stik at 32 fl oz then Flint 50 WG at 1 oz then Orbit 4 fl oz	39.4

* Means without letters are not significantly different.