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

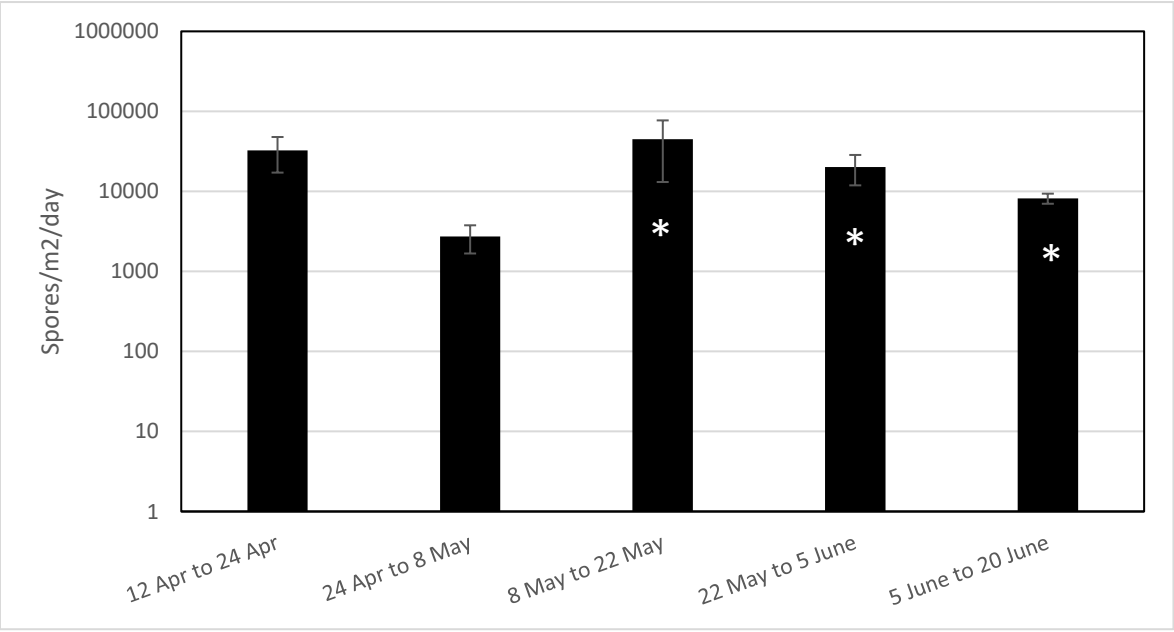
J. W. Pscheidt and N. DiManno
Dept. of Botany and Plant Pathology
Oregon State University
Corvallis, OR 97331

Evaluation of fungicides for management of eastern filbert blight, 2023 - 2024.

Healthy appearing two-year-old 'Ennis' hazelnut trees were planted 8 to 17 Feb 2023 at the Botany and Plant Pathology Field Laboratory, Corvallis, OR. Trees were planted in 3 rows in an area 12 x 172 ft and 3 ft apart from each other. Limbs with EFB cankers were cut from heavily diseased trees during Jan and Feb 2023 and placed above test trees on chicken wire frames supported by a wooden trellis. An additional source of spores included 5 brush piles of EFB cankered branches placed approximately 1 m west of the trellis area. 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 Stihl SG20-Pump-Style backpack sprayer equipped with a brass hollow cone nozzle. Approximately 0.25 gal of a spray suspension was used per 8 trees within each treatment. Fungicide treatments were applied every two weeks on 13 Apr 2023 (bud break), 26 Apr 2023, 9 May 2023, and 23 May 2023 for a total of 4 applications. Due to dry weather, unlike previous years, supplemental irrigation was required during the 8 week fungicide application window. Weeds were managed in 2023 with Mad Dog (3%) applied as a general treatment on 25 Jan 2023, Casuron 4G applied as a general pre-emergent on 22 Mar 2023, GlyStar Plus (3%) applied on 7 Jul and 22 Sep 2023, and Rely 280 (1.7 fl oz/gal) was applied on 17 Jul 2023 as general and/or spot treatment. In 2024, GlyStar Plus (3%) was applied on 23 Feb, Casuron 4G was applied as a general pre-emergent on 8 Mar, Ranger Pro (4 fl oz/gal) was applied on 24 Apr and 18 Jun, and Reckon 280L (1.7 fl oz/gal) was applied on 31 Jul 2024. Trees were fertilized with 46-0-0 at a rate of 0.5 lb/6 trees on 29 Mar 2023, 1 May 2023, 21 Mar 2024, and 19 Apr 2024. Suckers were managed by hand cutting on 23 Apr and 24 Jun 2024. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined during the late summer and fall of 2024.

Spring 2023 weather conditions were normal to dry in April and first week of May but then became very dry with little rainfall for the remainder of the season. Rainfall from bud break to mid-June was 1.22 inches with an additional 7.38 inches supplemental irrigation. Spore counts were naturally high in the two weeks after bud break and again with irrigation (Figure 1). Symptom development was early and first noticed late May 2024 as slightly sunken cankers with emergence of white stroma. The most EFB cankers were found on non-treated trees which was not significantly different from cankers found on trees treated with Excalia, Tesaris, ReGev, ProBlad Verde, and Ninja. Cankers did not develop on trees treated with Cevya or Miravis Duo but were not significantly different from the few cankers found on trees treated with Mevalone. No phytotoxicity or growth regulation effects were observed on any of the treated trees during or after application.

Figure 1. Ascospore counts from bud swell through shoot elongation, 2023 growing season. Collection intervals influenced by supplemental water through irrigation are notated with white asterisks on the data bar.



Treatment and Rate/100 gal water	Number of Applications [X]	Ave Number of Cankers/Tree [Y]	Total Canker Length/Tree [Y] (cm)
Non-treated ……...……...	0	4.9 a	68.7 a
Cevya at 5 fl oz plus Induce at 16 fl oz …….…….	4	0.0 e	0.0 d
Excalia at 4 fl oz…….……..…..	4	3.8 ab	46.7 a
Miravis at 5.12 fl oz …….……	4	1.4 cd	18.1 bc
Miravis Duo at 13.6 fl oz ….…….	4	0.0 e	0.0 d
Tesaris at 3 fl oz ……	4	2.8 a-d	36.4 abc
ReGev at 6 fl oz ……...…….……	4	3.5 ab	48.8 a
Mevalone at 55 fl oz plus Dyne-amic at 12 fl oz ……..….	4	1.1 de	13.0 c
ProBlad Verde at 40 fl oz……..	4	3.3 abc	36.0 ab
Romeo at 0.91 lb……	4	2.5 bcd	35.6 abc
Ninja at 12 oz…….	4	3.6 ab	40.2 a

[X] Fungicide treatments were applied every two weeks from bud break on 13 Apr 2023 (bud break), 26 Apr 2023, 9 May 2023, and 23 May 2023 for a total of 4 applications.

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