

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

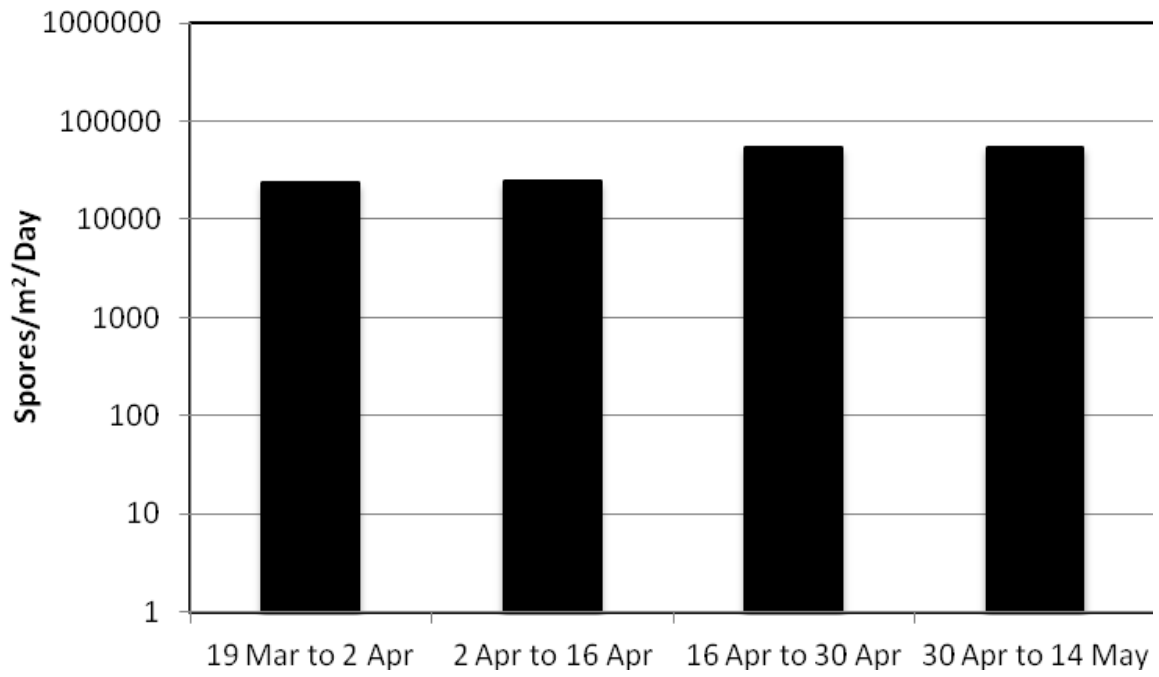
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Evaluation of fungicides for management of eastern filbert blight, 2015 - 2016.

Healthy appearing two-year-old 'Ennis' hazelnut trees were planted from 11 to 12 Feb 15 at the Botany and Plant Pathology Field Laboratory, Corvallis, OR. Limbs with EFB cankers were cut on 16 to 17 Jan 15 from heavily diseased 'Ennis' trees. A total of 450 cankered limbs were placed above test trees on chicken wire frames supported by a wooden trellis, on 6 Mar 15. 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. Most fungicide treatments were applied on 19 Mar 15 (bud break), 2 Apr 15, 16 Apr 15, and 30 Apr 15 for a total of 4 applications. One treatment of Ph-D WDG was applied weekly with additional applications that occurred on 26 Mar 15, 9 Apr 15, 22 Apr 15 and 7 May 15 for a total of 8 applications. Rely (25 fl oz/10 gal) was applied as a spot treatment on 28 May 15, 14 Jul 15 and 29 Jul 15 for management of weeds. Trees were fertilized with 46-0-0 at a rate of 0.5 lb/6 trees on 17 Apr 15. Supplemental irrigation was provided as needed during the 2015 growing season. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 18 Jul 16.

Spring 2015 growing conditions were considered warm and dryer than normal. Symptoms were first noticed on 3 May 16. Non-treated trees had the most cankers per tree but the number of cankers found on trees treated every 14 days with Ph-D were not significantly different. Cankers did not develop on trees treated with QuiltXcel or Quadris Top but only if the surfactant Silwet L-77 was included in the tank mix. The number of cankers found on trees treated with Cabrio, Merivon or Viathon were not significantly different from the number found on trees treated with QuiltXcel or Quadris Top. Weekly applications of Ph-D resulted in trees with significantly fewer cankers when compared with the number of cankers on trees treated with Ph-D or Oso every 14 days. Weekly applications of Ph-D may be useful but label restrictions of only 3 applications per year will dictate using it in a rotation or tank mix program. No phytotoxicity was observed in trees treated with any of the various materials used.

Figure 1. Ascospore counts from bud swell through shoot elongation, 2015 growing season.



Treatment and Rate/100 gal water	Number of Applications ^Z	Ave Number of Cankers/Tree ^Y	Total Canker Length/Tree ^Y (cm)
Non-treated	0	5.7 a	133.6 a
Cabrio 20 EG at 4.75 oz plus Silwet L-77 at 6.4 fl oz.....	4	0.4 efg	1.5 cde
Sercadis at 3 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	1.6 cd	20.7 b
Merivon at 3.25 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	0.4 efg	2.2 cd
Merivon at 4 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	0.1 fg	0.4 de
Ph-D WDG at 6.2 oz plus Silwet L-77 at 6.4 fl oz.....	4	3.8 ab	33.8 b
Ph-D WDG at 6.2 oz plus Silwet L-77 at 6.4 fl oz weekly..	8	1.1 de	7.8 c
OSO at 6.5 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	2.8 bc	39.0 b
Viathon 4.08 SC at 2 pt plus			
Induce at 12 fl oz.....	4	0.1 fg	0.6 de
QuiltXcel at 14 fl oz.....	4	0.1 fg	0.3 de
QuiltXcel at 14 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	0.0 g	0.0 e
Quadris Top at 7 fl oz.....	4	0.6 fg	5.5 c
Quadris Top at 7 fl oz plus Silwet L-77 at 6.4 fl oz.....	4	0.0 g	0.0 e

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^Y 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).