

Evaluation of organic fungicides for control 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 from 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. The biologicals Double Nickel and Botector were applied with a low-pressure Stihl pump style backpack sprayer reserved only for biologicals. Approximately 0.25 gal of a spray suspension was used per 8 trees within each treatment. Thiolux 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. Double Nickel and Botector treatments were 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/10gal) 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. The number of cankers per tree varied from 5.3 on non-treated trees to 3.1 on trees treated with the low rate of Double Nickel. The number of cankers per tree was not significantly different among all treatments even those applied at weekly intervals. Previous trials had indicated some activity with sulfur based materials or Botector but those results were not replicated in this trial. No phytotoxicity was observed in trees treated with any of the various materials used.

Treatment and Rate/100 gal water ^Z	Interval between applications (days)	Ave Number of Cankers/Tree ^Y	Total Canker Length/Tree ^Y (cm)
Non-treated	---	5.3	128.4
Double Nickel at 1 qt	7	3.1	79.8
Double Nickel at 2 qt	7	5.0	119.4
Botector at 10 oz.....	7	5.0	128.3
Botector at 14 oz.....	7	3.6	78.5
Thiolux at 2.6 lb plus Nu-Film-P at 6 fl oz.....	14	4.5	105.0
Thiolux at 10 lb plus Nu-Film-P at 6 fl oz.....	14	3.9	89.9

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^Y Analysis of variance is based on log₁₀(x+1) transformation. Means without letters do not differ significantly based on Fisher’s protected LSD (*P*=0.05).