

Drenching roots with flutriafol (TopGuard) for protection against eastern filbert blight, 2020 - 2021.

Drenching flutriafol onto the roots of trees worked well the year before so the trial was repeated. Some fungicides are active against EFB and upwardly mobile in the tree. TopGuard (flutriafol, FRAC group 3) is the most plant mobile of all the fungicides, effective against EFB and a good candidate for this trial. Healthy appearing two-year-old ‘Ennis’ hazelnut trees were planted into individual 1 gal pots containing potting media on 4 Feb 2020 at the Botany and Plant Pathology Field Laboratory, Corvallis, OR. Pots were placed in the field under cankered limbs placed on chicken wire frames supported by a wooden trellis. Pots were drenched with either 500 ml water or 500 ml solution of TopGuard (14 fl oz/100 gal) on 18 Mar 2020, 31 Mar 2020, 14 Apr 2020 and 28 Apr 2020 for a total of 4 applications. Some potted trees were treated on the same dates with foliar applications of fungicides. Pots were moved into a greenhouse on the OSU campus on 13 May 2020 and fertilized with 2 Tablespoons Osmocote. Trees were placed outdoors next to a greenhouse on 10 Nov 2020 then into an unheated greenhouse on 11 Mar 2021 and fertilized again with Osmocote on 19 May 2021. Supplemental irrigation was provided as needed while growing in greenhouse or outside. The number of EFB cankers on the main tree trunk and total length of these cankers/tree was determined on 26 to 29 Jul 2021.

After half the normal rainfall during the dormant season, spring 2020 weather conditions were considered normal to wet. Symptom development was first noticed on 25 May 2021 as sunken cankers with a few white stroma emerging. Cankers were not found on trees drenched with TopGuard while an average of 5.1 cankers developed on non-treated trees. Two cankers were found on a single tree treated foliarly with TopGuard. No phytotoxicity was observed on any of the treated trees.

Treatment and Rate/100 gal water	Application Method ^x	Ave Number of Cankers/Tree**	Total Canker Length/Tree** (cm)
Non-treated	None	5.1 a	71.9 a
TopGuard drenched at 14 fl oz.....	4 drenches	0.0 b	0.0 b
TopGuard drenched at 14 fl oz then Inspire Super at 20 fl oz then TopGuard SC at 14 fl oz then Merivon at 6.5 fl oz.....	1 drench Foliar Foliar Foliar	0.0 b	0.0 b
TopGuard SC foliar at 14 fl oz.....	All Foliar	0.3 b	3.3 b

* Fungicide drench treatments were applied on 18 Mar 2020, 31 Mar 2020, 14 Apr 2020 and 28 Apr 2020 for a total of 4 applications.

** 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 ($P=0.05$).