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

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Greenhouse evaluation of fungicides for protection or after infection activity against eastern filbert blight, 2002 - 2003.

Eight week old hazelnut seedlings grown from open-pollinated seed of 'Ennis' were inoculated with ascospores of *Anisogramma anomala* ($5.0x10^6$ spores per ml) using a pump sprayer on 21 and 25 May 02. Seedlings were sprayed with various fungicides using a hand held pump sprayer 24 hours before the 21 May 02 inoculation or 72 hours after the 25 May 02 inoculation. One treatment did not have any fungicide applied to inoculated plants for each inoculation date and served as the nontreated control. Each treatment consisted of 4 sets of 12 seedling trees. After inoculation, all seedlings were placed in a mist chamber with intermittent misting for 10 sec out of every 30 min during daylight hours. All seedlings were removed from the mist chamber after 3 days incubation and placed on greenhouse benches (70^oF days and 62^oF nights). Seedlings were transplanted from small "6-paks" to 1 gal pots on 20 Jun 02 and fertilized with Osmocote Slo-Release fertilizer 18-6-12 (1 teaspoon/pot) on 22 Jul 02. Seedlings were moved to an outside (colder), rain protected location on 24 Sept 02 then moved back into the greenhouse on 9 Apr 03 where temperatures were set at 70^oF days and 62^oF nights. Disease incidence was determined by recording trees that had died or showed symptoms of EFB or cambium staining below the point of inoculation on 20 Apr 03.

Most trees inoculated with EFB but not sprayed with fungicide became infected. All groups of trees treated with fungicide 24 hours before inoculation had a significantly lower disease incidence than either group of nontreated trees. Groups of trees treated with Bravo, Rubigan, or Rally 72 hours after inoculation did not develop significantly less disease incidence than nontreated trees. Groups of trees treated with Elite, Indar, Procure, Orbit or Flint 72 hours after inoculation did develop significantly less disease incidence than nontreated trees. Although many DMI and strobilurin fungicides may have 72 hour activity against EFB it may not be at a commercially useful level.

Treatment and Rate/100 gal	Hours Before Inoculation	Hours After Inoculation	Disease Incidence (%)*	
Nontreated (21 May 02) ……	----	----	92	ab
Nontreated (25 May 02) ……	----	----	96	a
Bravo Weather Stik at 32 fl oz	24	----	0	f
Rubigan 1 EC at 6 fl oz.	24	----	6	f
Elite 45 DF at 2 oz	24	----	2	f
Indar 75 WS at 1 oz plus Latron B-1956 at 8 fl oz	24	----	9	f
Procure 50 WS at 2 oz	24	----	8	f
Rally 40 WS at 2 oz	24	----	2	f
Orbit 3.6 EC at 2.5 fl oz	24	----	0	f
Flint 50 WG at 1 oz	24	----	0	f
Bravo Weather Stik at 32 fl oz	----	72	86	ab
Rubigan 1 EC at 6 fl oz.	----	72	77	bc
Elite 45 DF at 2 oz	----	72	58	d
Indar 75 WS at 1 oz plus Latron B-1956 at 8 fl oz	----	72	31	e
Procure 50 WS at 2 oz	----	72	65	cd
Rally 40 WS at 2 oz	----	72	82	ab
Orbit 3.6 EC at 2.5 fl oz	----	72	63	cd
Flint 50 WG at 1 oz	----	72	60	d

*Means followed by the same letter do not differ significantly based on Fisher's protected LSD (P=0.05).

Acknowledgements: We would like to thank David and Nita McAdams for the Royal seed nuts used in this trial.