HAZELNUT (*Corylus avellana*)
Kernel Mold; *undetermined fungi*

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EFFECT OF PLASTIC TENTS AND FUNGICIDES ON KERNEL MOLD OF HAZELNUT, 2001: The objective of this trial was to determine if kernel mold could be reduced through the use of plastic tents or fungicides. Treatments were randomized in a block of hazelnuts planted in 1994 on a 10 x 20 ft spacing at the Botany and Plant Pathology Field Laboratory, Corvallis, OR. These hazelnuts were selected for consistent high production of moldy kernels. Plastic tents were installed on 16 Feb over 2 single tree replicates of hazelnut selection 379.050. Another set of trees of this selection was left uncovered. All plastic tents remained over trees through early spring shoot growth until removal on 19 Jun. Orbit EC at 2.5 fl oz/100 gal water was applied to 2 single tree replicates of hazelnut selection 391.001 on 22 Jan (flowering – catkins elongate and red stigma/ styles showing). Another set of trees of this selection was left nontreated. Orbit EC at 2.5 fl oz/100 gal water was applied to 2 single tree replicates of hazelnut selection 380.057 on 12 Mar (bud break), 28 Mar and 11 Apr. This would have been the typical schedule used control EFB. Another set of trees of this selection was left nontreated. Bravo Weather Stik at 32 fl oz/100 gal water was applied to 2 single tree replicates of hazelnut selection 385.013 on 12 Mar (bud break), 28 Mar and 11 Apr. Another set of trees of this selection was left nontreated. Nuts were hand harvested off of trees 391.001 and 379.050 on 31 Aug, trees 385.013 on 13 Sep and trees 380.057 on 27 Sep. A total of 100 nuts were collected from each tree, dried at 110^0F for 72 hours, cracked open and evaluated for tip discoloration (associated with *Ramularia* sp in the past) and/or mycelial growth (associated with *Cladosporium cladosporioides* in the past).

Dormant and spring weather conditions in Western Oregon were considered dry with 50% below normal rainfall. Nontreated trees of selection 380.057 had a lower percentage of nuts with both tip discoloration and mycelial growth when compared to all other nontreated trees. Analysis was limited to only comparisons of treatments within the same hazelnut selection. Trees covered with plastic had significantly fewer kernels with both tip discoloration and mycelial growth when compared with nontreated trees. Also, catkins remained in trees covered with plastic until the plastic was removed. Some sunburn was observed on the upper most shoots before plastic was removed. Trees treated with any fungicide had statistically similar levels of tip discoloration or mycelial growth when compared with their respective nontreated trees. None of the trees showed any phytotoxicity during the first growing season, however, trees treated with 3 applications of Orbit showed typical growth regulation activity in the form of smaller, darker green leaves.

Selection	Treatment	Tip Discoloration or Decay (% kernels)	Mycelial Growth (% kernels)
379.050	Nontreated	26.0	34.1
379.050	Plastic tents	**7.3***	**7.4***
391.001	Nontreated	29.9	17.0
391.001	Orbit EC at Flowering (1 application)	27.6	16.0
380.057	Nontreated	5.5	2.9
380.057	Orbit EC during spring (3 applications)	6.1	1.5
385.013	Nontreated	32.4	16.9
385.013	Bravo Weather Stik during spring (3 applications)	33.4	17.5

* Analysis based on a paired two tailed t-test and significantly different at the 5% level.