

Hazelnut Foliar Fertilizer Trial - 2014



Purpose: To determine the effect of a foliar fertilizer program on yield of hazelnuts.

Procedure: On 2/23/14, a trial site was established in a 20+ year old orchard of hazelnuts located near Hubbard, OR. The site consisted of two blocks of trees. Each block included 6 rows each 1170 ft long (39 trees long). Trees in block one, eastern most, were heavily pruned for Eastern Filbert Blight during the winter of 2011/2012 and had heavy new growth. The western most block was pruned during the winter of 2012/2013 and had lighter regrowth. For purposes of the trial, the area between the two blocks was considered a "standard" or untreated check. Treatments were applied with a commercial orchard sprayer in approximately 50 gal. of total spray mix per acre. Following are the application dates with corresponding formulations:

February 26, 2014
 2-20-0 Bloom @ 1 pt/ac
 Cu Ace @ 1 pt/ac
 Mn Ace @ 1 pt/ac
 Zn Ace @ 1 pt/ac
 K-Ace @ 6 oz/ac
 0-0-2+5 Boron @ 4 oz/ac
 Humasol @ 8 oz/ac

March 18, 2014
 Three Aces @ 1 qt/ac
 Cu Ace @ 1 pt/ac
 Zn Ace @ 1 pt/ac
 KAc @ 12 oz/ac
 0-0-2+5 Boron @ 3 oz/ac
 B-12 @ 0.75 oz/ac
 Dri-phite @ 0.75 lbs/ac
 Humasol @ 1 pt/ac

April 2, 2014
 Three Aces @ 1 qt/ac
 Kelpgrow @ 1 qt/ac
 K-Ace @ 12 oz/ac
 Humasol @ 1 pt/ac
 Cu Ace @ 1 pt/ac
 Zn Ace @ 1 pt/ac
 B-12 @ 0.75 oz/ac
 0-0-2+5 Boron @ 3 oz/ac
 Sugar @ 1.5 lbs/ac

May 3, 2014
 Three Aces @ 1 qt/ac
 Kelpgrow @ 1 qt/ac
 K-Ace @ 12 oz/ac
 Humasol @ 1 pt/ac
 Cu Ace @ 1 pt/ac
 Zn Ace @ 1 pt/ac
 B-12 @ 0.75 oz/ac
 0-0-2+5 Boron @ 3 oz/ac
 Sugar @ 1.5 lbs/ac

May 22, 2014
 5-10-5-5 Ca Grow @ 1 qt/ac
 CN 9 @ 1 gal/ac
 Humasol @ 1 pt/ac
 Dri-phite @ 0.75 lbs/ac
 Cyto-Kelp @ 0.75 lbs/ac
 Sugar @ 1.5 lbs/ac
 0-0-2+5 Boron @ 18 oz/ac

July 7, 2014
 SRN 28 @ 1.5 gal/ac
 Cu Ace @ 1 pt/ac
 Humasol @ 1 pt/ac
 K Ace @ 1.5 qts/ac
 Cyto-Kelp @ 0.75 lbs/ac
 0-0-2+5 Boron @ 3 oz/ac
 Sugar @ 1.5 lbs/ac

August 5, 2014
 SRN 28 @ 1.5 gal/ac
 K-Ace @ 1.5 qts/ac
 Cu Ace @ 1 pt/ac
 Cyto-Kelp @ 0.75 lbs/ac
 0-0-2+5 Boron @ 3 oz/ac
 Humasol @ 1 pt/ac
 Sugar @ 1.5 lbs/ac

Leaf samples were taken on 9/4/14 for analysis of nutrient levels. Please see the attached results from A & L Western Agricultural Laboratories. On 9/25/14, three to five hazelnuts/tree were collected randomly from within the dripline of trees in the respective treatment blocks. On 10/20/14, the trial blocks were harvested commercially. Field run weights were obtained for production from each block. On 10/28/14, three samples of 100 hazelnuts each were randomly drawn from the hand harvested samples drawn on 9/25/14. Each 100 nut sample was weighed. The hazelnuts were then cracked and both shell weight and kernel weight were obtained and recorded.

CultivAce Hazelnut Foliar Fertilizer Trial - 2014

Results: Field run yield (in lbs/row).

Standard/UTC	Treated
1255 lbs/row (32.2 lbs/tree)	1464 lbs/row (37.6 lbs/tree)

Results: Average weights/100 nut sample (in grams).

	Standard/UTC	Treated
In-shell wt.	408	397
Kernel wt.	166	162
Cracked shell wt.	242	236



Discussion

Samples from both standard/utc block and the treated block were very similar i.e., nut size, number of blanks - usually 2+% for each, and essentially no mold in either sample. It is interesting to note that the average yield is greater in the treated blocks than in the standard/utc block, the 100 nut sample weight, kernel weight and cracked shell weight is treated for the standard. Thus, the larger yield must be attributed to yield per acre. These differences may not be significant however as variations are large in field sized orchard trials. An example in this trial may be where the standard sample was taken - how close was it to the most recently pruned area of the orchard, resulting in lower yield per row?

Conclusion

Results of this trial suggest an increase in yield of hazelnuts per acre from this foliar fertilizer program.

1255# = 3500#/Acre @ \$1.70/
 # = \$5950.00/Acre gross

1464# = 4090#/Acre @ \$1.70/
 # = \$6953.00/Acre gross

\$6953.00 - \$5950 = \$1003.00
 per acre increase in gross less
 cost of material of \$190.00
 Equals

**\$813.00 INCREASE
 IN NET DOLLARS
 PER ACRE!!!**

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