**HAZELNUT PLANTING PLANS**

 Square planting arrangement Diamond pattern 16’ x 8’ (340 trees/A)

After removing 50% of trees, spacing is 18’. After removing 50% spacing on diagonal is 18’.

Row 1 18’ 2 3 4 5 6 7 1 16’ 2 3 4 5 6 7

L1 L1 L2 L2 L3 L3 L4

8’

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

L1 L1 L2 L2 L3 L3 L4

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L2 L1

 9’ 8’ L2 L3 L1

 L1 L1 L2 L2 L3 L3 L4 L1 diamond L3 L4 L1

 L4 L3 L1

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L5 L1

 L5 L3 L1

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L2 L1

 L2 L3 L1

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L4 L1

 L4 L3 L1

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L5 L1

 L5 L3 L1

Final spacing after tree removal. (Square) (Diamond) Trees are 18 feet apart on diagonals of the diamond..

Row 1 18’ 2 3 4 5 6 7 1 16’ 2 3 4 5 6 7

L1 L2 L3 L4

 18’

16’ L1 L2 L3

L1 L2 L3 L4

 L1 diamond L2 L3

L1 L2 L3 L4

 L1 L2 L3

L1 L2 L3 L4

 L1 L2 L3

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L2 L1

 8’ L2 L3 L1

 18’

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L1

 L5 L3 L1

 L4

 L1 L1 L2 L2 L3 L3 L4 L1 L3 L1

 L4 L3 L1

 L1 L1 L2 L2 L3 L3 L4

Drawings are not to scale.

L1 & L3 (main crop), L2, L4 & L5 (pollinators). Area = 1 acre or 0.4 ha. The pollinator cultivars can be staggered every other one in the row to maintain space for the main production cultivar. It would be best to include 3 pollinator cultivars to better cover the pollination season. ‘Gene’, ‘Carmela’ and/or other layered selections can act as pollinators.

For large plantings of specific cultivars Oregon recommends a ratio of 8 to 2. You would set up your planting with cultivars planted in blocks of 4, 6 or 8 rows with pollinators in-between in a block of 2 rows.

Tree spacing can vary depending on your topography and needs. Use these figures as a guide.

**Tree spacing 18' x 18'** totals134 trees per acre or 0.4 ha

**Tree spacing 18’ x 12’** totals202 trees per acre or 0.4 ha.

**Tree spacing 18’ x 9’** totals266 trees per acre or 0.4 ha. (Double Density planting)

**Tree spacing 16’ x 8’** totals 340 trees per acre or 0.4 ha. As illustrated above. (Double density)

Northern Hazel trees can be planted on a 15 x 10 ft (290 trees per A) square pattern or 12 x 6 ft (605 trees per A) spacing since the trees at maturity are smaller than the other hybrids.

A 12 x 6 ft pattern could use a diamond pattern as above if crowding becomes an issue. The distance on the diagonal would be 13.4 ft when 50% of the trees are removed.

Rows can be as close as 15 feet on the larger hybrids to raise production per acre but this can make travel between rows more difficult at maturity.

To calculate the required number of trees per acre use the following formula:

 43560 (# of square feet in an acre)

 A x B (spacing between trees)

**Factors for Consideration**

\*Layered selections are clones of the mother trees. The layering technique allows for selected cultivars to be grown on their own roots. They can also be cloned by tissue culture and cuttings.

Seedling trees can be used as pollinators, but only about 50% are highly resistant or immune to eastern filbert blight. Since seedling trees are quite variable and the pollination time period in Ontario is relatively short, there is a better chance of getting good pollination. However, seedling trees do not have the track record of layered selections and therefore leave more to chance. As a result nut quality, production, and disease resistance are more variable with seedlings. If using seedling trees we suggest considering them as guard row trees surrounding your main planting. In these cases be prepared to remove all blight each year and remove the poor trees when it is time to thin the orchard.

**Field Preparations**

It is important to provide windbreaks on the north and west of the field. Tile drains should be installed to improve drainage. This helps the trees but it is also important in a wet fall for harvest, Underground drip irrigation would be advisable to provide water in times of drought. This will improve the yields and quality of the nuts.

**Production**

We estimate as an average at ten years you can produce approximately10 pounds per tree:

1600 pounds per acre for 160 trees

2020 pounds per acre for 202 trees

2400 pounds per acre for 242 trees

**Pricing**

Fresh crop prices can sell retail at $3-6 per pound in shell. Wholesale prices vary, but can earn $2+ per pound. Shelled nuts can earn $11 or more per pound retail.