



WALNUT NOTES

Second Thinning

Thinning your black walnut stand the second time is much like thinning it the first time except that you face tougher decisions about which trees to keep (see Note 3.03: First Thinning). Most of the poorest trees have already been removed.

Deciding when and how much to thin is still important. Delaying thinning allows between-tree competition to slow the growth of the better trees. The amount of wood produced per year on an acre of land is about the same no matter how many trees there are. So, if there are many trees, each will grow only a little; if there are few trees, each individual tree can grow much more.

The following tables give the average diameter for stocking (crown competition factor) levels of 100 to 150 for several common planting spacings in two stands previously thinned by different amounts.

Table 1. -Tree diameter at which to make a second thinning in a stand previously thinned to two-thirds of its original size

(In inches)

CCF	Original spacing (feet)					
	5x10	8x12	10x10	11x11	12x12	15x15
100	2.5	4.3	4.5	5.2	5.9	8.0
110	2.7	4.7	4.8	5.6	6.3	8.5
120	2.9	5.0	5.1	5.9	6.7	9.0
130	3.1	5.3	5.4	6.2	7.0	9.4
140	3.4	5.6	5.7	6.6	7.4	9.9
150	3.6	5.9	6.0	6.9	7.7	10.3

Table 2.-Tree diameter at which to make a second thinning in a stand thinned to half its original size

(In inches)

CCF	Original spacing (feet)					
	5x10	8x12	10x10	11x11	12x12	15x15
100	3.2	5.4	5.6	6.4	7.1	9.6
110	3.5	5.8	5.9	6.8	7.6	10.1
120	3.7	6.1	6.3	7.2	8.1	10.7
130	4.0	6.5	6.7	7.6	8.5	11.2
140	4.3	6.8	7.0	8.0	8.9	11.7
150	4.5	7.2	7.4	8.3	9.3	12.2

For the second thinning, you'll need to make the same three decisions as for the first thinning: when to thin, how much to thin, and which trees to leave (see Note 3.03: First Thinning).

When selecting which trees to keep in the second thinning, be sure to consider the distance between any two crop trees. Generally, the minimum distance between any two crop trees should be 55 percent of the sum of their crown radii. For example, the crown radii of a 7-inch-diameter tree and an 8-inch-diameter tree would be 9.4 feet and 10.4 feet, respectively. To find the crown radius in feet, multiply the diameter in inches times 0.997 and add 2.44 feet. The two trees should be at least 10.9 feet apart (9.4 plus 10.4 times 0.55) if both are to be retained as crop trees.

Once you've marked all the groups, reexamine the entire stand, looking for areas where too many or too few trees will be left. As a general rule, each remaining tree should benefit from the thinning by the removal of at least one of its nearest neighbors. Also, the thinning should not result in large, open areas unoccupied by trees.

Finally, thin carefully to avoid mechanical damage to the trees that are left. This is especially important in the second thinning because the trees removed are larger than in the first thinning, and there are fewer insurance trees. Also, avoid chemical thinning (timber stand improvement) or chemical treatment of cut stumps because chemicals may spread from treated trees to the remaining trees.

Reference

Anonymous. 1981. Quick reference for thinning black walnut. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station and Northeastern Area State & Private Forestry. 32 p.

Richard C. Schlesinger