

Methods of Size Control Used in Growing Hardwoods

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Most of you Nurserymen know, some of the things I tell you we do at the Green Springs Nursery will not work for you. The length of the growing season in each Nursery represented will be different. The amount of rainfall will vary. The frost period is also different. Some experimentation will have to be done with each species in each Nursery. Even some of the desires of the cooperators will be different.

We will give you our margins by species. Most of the time we would rather have a date in the middle of these margins, but have found we can produce a good plantable seedling from the extremes. Seeding early and we can hold off, to some extent, on watering. Late and we can increase early watering and the addition of ammonium sulfate. We use the sulfates because of the PH being above neutral. We have found you can water Sycamore heavy during August and early September and increase the size by four to six inches. If you looked at our Sycamore now, you'd say that it would not get large enough. We have had some nice seedlings the past few years.

The fall seeding starts after October 1, except Basswood -- which is sown as soon as possible after collecting or kept in cold storage until seed beds are ready. Other seeds can germinate in warm September weather, especially seeds from cold storage.

The Bald Cypress seed is stratified 90 days in cold storage and seeded May 15-20th. If seeded earlier it will get too large.

The Silver Maple seed is cleaned and dried 5-10 days. It is seeded between June 1-15th. Seedlings will get too large if seeded sooner.

The Sycamore seed is stratified 3-5 days in cold storage and seeded between June 8-18th. (Can be earlier for size can be controlled a little by irrigation). Grows a lot during September and October in this area.

The Black Locust seed is treated with Sulphuric acid (concentrated) for 30 minutes; then seeded June 20th to July 8th. Too much cull if sowing

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is delayed until after July 8, especially on sandy soil. We like to seed June 25-28th. We have re-seeded thru July 5-8th. We try to seed on heavier soil at that time. Sometimes we get washouts from heavy rains during this time that necessitates re-seeding; about once in 4 to 5 years.

Our best seedlings are grown at 25 to 30 per sq. ft. , except Walnut, which we can only get 7 to 11. Any more seedlings per square foot and problems will develop. In some species insects, disease and-excess height result from dense beds. Some of the species more prominently affected are Red Oak, Walnut and Alder. In other species, spindly seedlings result in a large amount of cull seedlings. It is better to thin when young. Most hardwoods can be grown in our soil at a higher rate per square foot than in some nursery soils I have seen.

Cur fertility is maintained by use of cover crops, commercial fertilizers and crop rotation. We try to keep on 1 year out of 3 as follows:

1. First Year Seedlings
2. Second Year - Oats, soybeans, and wheat

Drill in Ammonium Sulphate on oats - turn under early enough for soybeans. Drill 12-12-12 and plow under beans for wheat.
3. Third Year - Ammonium Sulphate again and turn under early for Spring sown stock. Sometimes it is turned under just before heading and disced till time to treat with Methyl Bromide for Fall seeding. Sometimes late treating for early seeding in Spring. Oats are sown on some areas and turned under in early Spring. This is treated with Vapam for Locust and some Sycamore.

On our cover crops we cover our seeding with straw and manure obtained from the Fairground. This is to keep the sand from moving rather than fertility, although it does have some fertility value. This mulch is put on with the manure spreader. It is thin enough to not get in the way of farm implements. It breaks down and turns under well.

The above has seemed to keep up the soil enough, that in a few instances, we've had to put seedlings in spots for a 2nd year without any repercussion . We do have crop failures sometimes due to wet weather. We've fought the weather on late seedings the past 3 years.

We have purchased a mulching machine and hope to do away with straw mulch over seedlings. We still plan to use it on cover crops to prevent the sand blowing in these high winds.

Due to our water supply, we have only watered at times to barely keep the seedling growing. Since our Honor Camp has left, maybe we won't have to watch this so closely. (They also used the lake for drinking and cooking.) We have enough natural rainfall that not much irrigating is needed until August and September. No irrigating in October as we do our Fall lifting in November. Some species -- Red and White Oak, Black Alder, Sycamore -- retain their leaves longer than the other species grown. We use the irrigation to partially control size. The strip mine planters like smaller seedlings due to rockiness of some soils. They still want a stocky seedling.

Some of the most troublesome insects and disease are Leaf Hoppers, Anthraxnose, Mildew, and occasionally Aphids. Iso--tox and Black Leaf 40 does a good job controlling Aphids. On Fungus diseases we find Ferbam and Karathane providing best control. For Leaf Hoppers and Red Spider the Malathion seems to give best control. We prefer starting early enough on prevention instead of trying to control. The last few years our springs and early summers have so many rains, we can't seem to keep ahead with spraying. The last few years we have had late damping-off on Silver Maple and it usually takes 2 sprays 10 days to 2 weeks apart with Tersan 75 to completely control.

There are other controls -- good controls -- for the above, but in this area these have proven better. I would always recommend trying them all for any given area.

Now, if time permits, and you are not too confused by the above, I will attempt to answer any questions that the above might have suggested to you.