

Physiology

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Many nurseries are troubled with the increasing T/R ratio with increasing age of seedlings. The problem is most severe in the northern nurseries where 2-0 pines are not quite big enough and the 3-0 stock gets out of balance, Maryland hasn't this problem because 2-0 seedlings are large enough. Red pine from Vermont was shown which as 2-0 had a 4.8/1 and as 3-0 had a ratio of 6.9/1, green weight basis. White pine showed a similar increase from 2.5/1 as 2-0 to 4.7/1 as 3-0. The seedlings came from 13 - 14 trees/sq. ft. beds. The standard grade recommendation in 1960 of the R 7 grading committee was 4.5/1, green weight basis. Saratoga's figures for root pruned 3-0 red pine at 3.4/1 show an advantage over unpruned stock at 5.5/1. It was the feeling of most of the nurserymen that 2-0 stock because of its better balance and easier planting is often better planting stock than the larger 3-0 stock generally desired by planters. Smaller stock also has the advantage of sustaining less wind damage on exposed sites.

Tests conducted in New York about 35 years ago showed poor survival for 2-0 seedlings but subsequent good growth proves it equal to the better surviving 3-0 seedlings. Twice root pruned seedlings proved superior in survival to 2-2 transplants. The 2-0 seedlings used were from high density beds intended for transplanting. Pennsylvania reports that Galtfelter Paper Co. is using Amazine applied in a 20" band ahead of the planter to get good survival of 2-0 stock in heavy

sod ground where all previous plantings had failed. Top pruning is practiced by some to help keep the tops in balance with the roots during the third year.

It was apparent that while most nurserymen felt that younger, better balanced stock was superior planting stock, no one was prepared to prove his point with test results. Additional testing in each state is necessary to show which age and physiological condition makes the best planting stock.