

Start Trees off Right

Rachael Brooke
Phillips-Rooks District Extension Agent
Agriculture and Natural Resources

Research from K-State's John C. Pair Horticultural Center has quantified the effect of controlling grasses around newly planted trees. Jason Griffin, William Reid, and Dale Bremer conducted a study to investigate the inhibition of growth of transplanted, seedling trees when lawn grasses were allowed to grow up to the trunk. There were five treatments, including three with different species of grass: 1. Bare soil maintained with herbicides. 2. Area under tree mulched 3 inches deep. 3. Tall fescue allowed to grow under tree. 4. Bermuda grass allowed to grow under tree. 5. Kentucky bluegrass allowed to grow under tree.

All treatments were applied to Eastern redbud seedlings as well as to pecan seedlings. All trees were fertilized according to recommendations and watered during the growing season with up to 1 inch of water if rainfall was deficient. At the end of two years, trees were measured and harvested. Data was taken on caliper (diameter) 6 inches above the ground, weight of aboveground portions of the tree, leaf area, and leaf weight. There were no differences in any measure between the mulched treatment and the bare soil treatment for either tree species. All measures showed significant growth increases if lawn grasses were controlled around the tree.

Results include the following: 1. Caliper: Caliper measures 6 inches above the soil surface were twice as large for plots without grass than for those with either fescue or bluegrass, but only 50% larger when compared to the Bermuda grass plots. 2. Top growth weight: Redbuds showed a 300% weight advantage for plots with grasses controlled than those without. Pecans showed a significant 200% increase. 3. Leaf area and leaf weight: Leaf areas were 200% larger in plots without grass competition and leaf weight showed a 300% increase.

The obvious conclusion from this study is that grasses must be controlled under a newly transplanted tree to get the best possible growth. Though there were no differences in growth whether mulch was used or not, you may still wish to mulch for aesthetic reasons or to help control weed growth. How far from the trunk, should the grasses be controlled? Try a minimum of 3 feet.

For more information, please contact the local K-State Research and Extension Office.

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