

## START TREES OFF RIGHT

Research from K-State's John C. Pair Horticultural Center has quantified the effect of controlling grasses around newly planted trees. Dr. Jason Griffin, Dr. William Reid, and Dr. 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. Bermudagrass 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 above ground 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 bermudagrass 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, which will give you a 6 foot circle.

## ***Fruit Trees and Frost***

Spring in Kansas is often unsettled with apricot and peach tree flowers being the most vulnerable to late frosts. Of course, the tree itself will be fine but there will be no to little fruit for that year. Other species of trees can also be affected but apricots and peaches are by far the most sensitive. Also, the closer a tree is to full bloom, the more sensitive it becomes to frost.

Apricots are more likely to have frost kill flowers than peaches because they bloom a bit earlier. Though there are late-blooming apricot varieties, the differences between full bloom on early and late-blooming varieties appears to be slight. Research at Virginia Tech in the 90's showed a maximum of a 4-day difference between early and late varieties. However, in some years that may be all that is needed. The trees in the study that were considered late blooming included Hungarian Rose, Tilton and Harlayne. Harglow was not included in the study but is also considered late-blooming. Peaches are next on the list for being likely to be caught by a late frost. With peaches, two characteristics become important when considering whether they will be damaged by late frosts. Like apricots, bloom time is very important but fruit bud hardiness should also be considered. In this case, fruit bud hardiness refers to hardiness to late frosts rather than the ability to survive extreme low temperatures during the winter. Late bloomers included 'China Pearl', 'Encore', 'Intrepid', and 'Risingstar'. The 'Intrepid' cultivar also has shown excellent cold hardiness when in flower. So, are there other considerations when looking at possible frost damage? Location can be very important. Planting on a hill

which allows cold air to drain to lower elevations can help, and a north facing slope is preferred over a south facing slope. This is because trees on a north slope will bloom up to three days later than trees on a south slope. Also, a location in town will be more likely to have a warmer micro-climate than an exposed location. Some gardeners will add a heat source under a tree during cold nights if they are close to a building. Heat lamps and charcoal briquettes are sometimes used but safety should be the first consideration. If you can cover a tree with an old linen sheet you can place a 100 watt light bulb in the middle of the tree and it will put out enough heat to save a good portion of the fruit set. Of course this would only be practical for the lone backyard tree, not an orchard.

## ***Bird Feeding***

Severe winter weather is not only hard on people but can be a life and death struggle for birds. Though birds also require water and shelter, food is often the resource most lacking during cold weather. Many different bird food mixes are available because various species often prefer different grains. However, there is one seed that has more universal appeal than any other: black oil sunflower. If you are new to the bird-feeding game, make sure there is a high percentage of this seed in your mix. White proso millet is second in popularity and is the favorite of dark-eyed juncos and other sparrows as well as the red-winged blackbird. As you become more interested in bird feeding, you may want to use more than one feeder to attract specific species of birds. Following is a list of some bird species with the grains they prefer.

- *Cardinal, evening grosbeak and most finch species* – sunflower seeds, all types.
- *Rufous-sided towhee* – white proso millet.
- *Dark-eyed junco* – white and red proso millet, canary seed, fine cracked corn.
- *Many sparrow species* – white and red proso millet.
- *Bluejay* – peanut kernels and sunflower seeds of all types.
- *Chickadee and tufted titmouse* – peanut kernels, oil (black) and black-striped sunflower seeds.
- *Red-breasted nuthatch* – oil (black) and black-striped sunflower seeds.
- *Brown thrasher* – hulled and black-striped sunflower seeds.
- *Red-winged blackbird* – white and red proso millet plus German (golden) millet
- *Mourning dove* – oil (black) sunflower seeds, white and red proso plus German (golden)millet.

Extended cold periods can also make water unavailable. A heated birdbath can be a tremendous draw for birds during times when all other water is frozen. Energy use is usually less than what most people expect **IF** the heater has a built-in thermostat.