

Post-Planting Tree & Shrub Maintenance

Proper care the first few years sets the stage for the tree's lifetime. Below are the steps and considerations for tree care and maintenance:

1 ASSESS YOUR PLANTING SUCCESS RATE

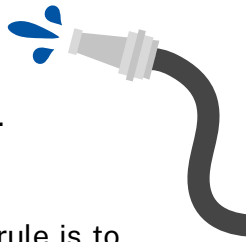
In year 2, your first step is to assess your planting success. This involves determining what survived and what did not. What is normal mortality? Acceptable mortality rates: 2-3% in large forest plantings in the first year, and 5-10% over five years. In windbreaks or living snow fences, every tree matters, necessitating replanting for any mortality.

2 WATERING

Proper tree watering is crucial for health, especially in the first few years. Check trees weekly, ensuring the soil is moist but not soggy. Adjust watering based on weather conditions: reduce in cooler, wetter months and increase during dry spells.

Tree watering do's and don'ts:

- Use a slow trickle or drip system to ensure water reaches the root zone without runoff.
- Avoid overwatering, which can suffocate roots; generally, an inch of rain per week is sufficient.
- Water less in late summer to prevent stimulating late growth.
- Avoid frequent light watering to prevent shallow root systems.
- Water with an open-end hose at a rate low enough to keep water from running off. A good rule is to water one hour per inch diameter of the tree. Tree roots extend away from the tree at least as far as the tree is tall, so place the hose at or beyond the drip line for most effective watering.



3 FERTILIZING

- Newly transplanted trees may grow slowly initially - avoid fertilizing in the first year to promote root development over excessive leaf growth.
- Fertilization is usually unnecessary if growth and foliage color are normal.
- Regular fertilization aids establishment in poor soils and after insect or disease damage.
- Never fertilize drought-stressed trees, and ensure watering after fertilization.
- It is best to complete a soil test before fertilizing. A soil test will also indicate whether the soil is acidic or alkaline. Some nutrients may be unavailable to the tree when the soil is too alkaline. Soil sample bags and directions are available at most county extension offices or at your Soil and Water Conservation District.

Timing:

Apply fertilizer in early April before new growth, or until mid-July, avoiding late applications that could lead to weak growth before winter. An exception is the use of slow-release fertilizers that are safe to use from mid-summer through late fall.



N-P-K

Use a complete fertilizer like 10-8-6. This formula can vary somewhat, but usually the nitrogen(N) content (the first number) will be higher than the phosphorous(P) (second number) or the potassium(K) (last number). Be aware of local restrictions on phosphorus applications.



4 STAKING

- Stake only if the tree is in a windy area or has a weak root system.
- Remove stakes after one growing season to prevent girdling and encourage natural strength.

5 ANIMAL PRESSURE

In Minnesota, white-tailed deer are the primary threat to newly planted trees, causing damage through browsing and antler rubs. Other animals like rabbits, voles, and mice also harm trees by girdling the bark, cutting off nutrient transport and leading to tree death.

To prevent damage:

- Wire cage and tree tube trees that are exposed to animal pressures.
- Electric fencing is very effective but can be costly and requires more involved maintenance.
- Livestock can be very detrimental new tree plantings - fence out whenever possible.
- Repellents, available in smell and taste forms, must be reapplied regularly.
- Bud capping can protect buds by covering them with paper, though it is inexpensive, it is more labor-intensive.



6 WEED CONTROL

Site preparation before planting is the best way to control weeds, but several methods are available for weed control after planting trees. Most are eligible for cost-share assistance in the tree planting practice.

Mechanical Methods:

Tilling - Keep tillage shallow (2-3 inches) to avoid damaging tree roots. Several passes each year may be required to control weeds.

Mowing - Used in conjunction with other methods of weed control such as mulching. Planting areas should be mowed before seed heads mature. If weed whip trimmers are used take caution not to allow contact with tree bark.

Mulching - Spread a 2–4 inch layer of organic mulch (wood chips, bark, or straw) around the tree base. Maintain a 3–4 inch gap between the mulch and tree trunk to prevent rot and pests.

Fabric - Landscape fabric suppresses weeds and allows water and air exchange. The edges of the fabric must be stapled or buried to hold it in place.

Cover Crop - Planted between tree rows to reduce aggressive weed spread and improve soil conditions, but must be managed to prevent competition with trees.

Chemical - Herbicides can control weeds but must be chosen based on the type of weeds and trees involved, with careful consideration of application methods and environmental impacts. Always follow product label directions.

7 DISEASE AND INSECT PEST MANAGEMENT

Tree diseases can be complex, requiring professional assessment for effective solutions.

- Monitor trees closely for signs like dead or discolored foliage and contact a local forestry expert if issues arise.
- Useful resources for disease identification include websites like bugwood.org and state forestry sites, and university extensions.
- Pruning and thinning help control diseases, strengthen tree structure, and remove unproductive, diseased, or infected branches to maintain healthy trees. Proper disposal of removed branches prevents reinfection.

Similarly, insect pests pose challenges similar to tree diseases.

- Early monitoring for signs of insect damage, such as defoliation or abnormal growth, is crucial. Insects can often be identified through visual inspection.
- Consulting a forestry professional for identification and pest control methods is recommended, and the same resources for tree diseases may also assist with insect identification.

