

# PLANT HEALTH CARE REPORT



## Young Tree

Once established, a young tree is capable of rapid growth. Its high leaf surface area compared to its total biomass generates a surplus of energy. A young tree uses this energy to build developing tissues and stores the surplus, tapping into it as needed to tolerate change and stress.

Since the value and benefits of a tree increase as it grows, promoting growth in a young tree is a common objective. Plant health care programs can be designed to maximize growth and to ensure a strong crown structure and root system to support the tree later in life. To meet these goals, a comprehensive program that offers pruning, fertilization, root system care, and pest management is needed.

**Pruning** a young tree is a multistep process guided by goals such as

- promoting a strong structure to prevent failures as it matures
- improving appearance to meet owner's expectations
- preventing interference with people, structures, utilities, or views over time

Because the leaves produce all the plant's energy for growth, excessive pruning must be avoided. However, a benefit of pruning a young tree is that the wounds will be small and



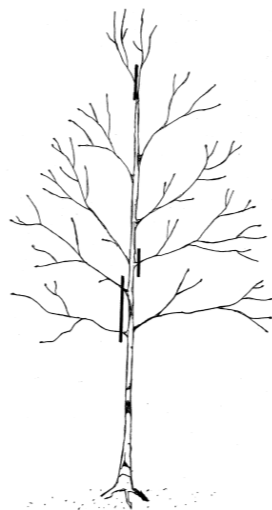
'New Harmony' elm that has been pruned to promote a central stem. It has to compete with grass for water and nutrients.



Red maple that has begun a multi-year pruning process. Spacing branches around the stem and managing branch diameter must be done over time.

close quickly. For most tree species, pruning every 1 to 2 years is recommended.

A strong, central stem should be developed and maintained and co-dominant stems removed before a weak union develops. Over the years, it is important to provide adequate spacing between major branches and reduce branches as needed to maintain strong branch attachments to the stem. Dead, dying, diseased, and crossing branches and root suckers should be removed; they do not contribute significant energy to the tree. A desirable form according to the species and owner expectations should be maintained.



Pruning cuts that will promote branch spacing and a central stem indicated with black lines

**Fertilizing** an established young tree will result in quick responses. When rapid growth is a primary objective, routine applications of a high-nitrogen, slow-release fertilizer are recommended. Soil pH should be maintained in the optimal range for the plant species. If deficiency symptoms occur, remedial treatments should be based on soil analysis.

**Root system care** begins with ensuring that the root collar (area where the stem joins the root system) is above the soil line, which might require excavation of soil or mulch. If the root collar is covered over, moisture against the stem can directly damage stem tissue and lead to insect and disease

## Monitoring and Treatment Considerations for Young Tree

### Winter

Apply dormant treatment to suppress overwintering insects if needed. Expose and inspect root collar for problems; add mulch as needed. Remove dead, dying, diseased, and broken branches. Reduce or remove branches to promote appropriate structure. Sample soil for nutrient and pH levels.

### Spring

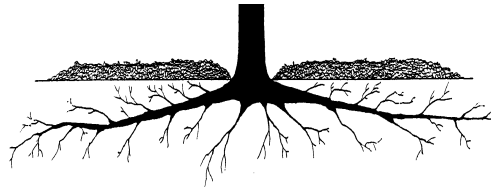
Apply fungicide treatment to prevent foliage disease or apply bark treatment to prevent borers if needed. Monitor for insects and mites; treat as needed. Fertilize, adjust pH, and amend soil according to soil analysis. If decline is evident, submit root samples for root disease testing.

### Summer

Inspect tree for disease symptoms; treat as needed. Monitor for insects and mites; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease. If micronutrient deficiency is suspected, take a soil and foliar nutrient sample.

problems. Excavating the root collar with a compressed air tool or hand tools will remove this excess.

Maintaining a 2–4” layer of organic mulch over the root system instead of turf is one of



the most effective treatments to promote tree growth. Mulch eliminates competition between turf and tree roots for water and nutrients, conserves soil moisture, moderates temperatures, improves soil microbiology, and provides nutrients that promote root development. Mulch also helps protect the base of trees from mowers and string trimmers. Wounds created by these tools weaken trees and predispose them to insect infestations and disease infections.

A young tree generally requires 1” of water per week during the growing season to maintain growth when rainfall does not occur. Irrigation is particularly important on a tree that is routinely fertilized. Irrigation water can be supplied gradually using a drip system or applied with 1 or 2 drench applications a week. Monitor and adjust the irrigation to prevent saturating the soil. Installing a tensiometer (moisture meter) can help determine the irrigation need.

**Integrated pest management (IPM)** techniques, such as periodically inspecting plants for pests, can be used to prevent repeat defoliation by insects and certain diseases that weaken a young tree. When detected, pests are maintained below levels which impact plant health through integrated cultural, biological, and chemical treatments.

## Fall

If sucking insects were problematic this past growing season, consider treating with an appropriately timed systemic product. Monitor irrigation and soil moisture to minimize winter injury. Inspect mulch levels and adjust as needed. Fertilize, adjust pH, and amend soil according to soil analysis.