

Home Turf Management



David Cook
Extension Agent - Davidson County

Soil Preparation Before Planting

- Test soil 6 to 8 weeks before planting date.
- Follow recommendations from soil test.
- A starter fertilizer can be worked into the seed bed prior to planting (example: 18 -24 -6).
- Control troublesome weeds before planting.

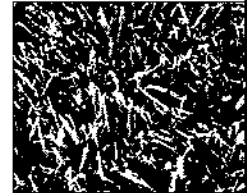
Turfgrass Establishment

- **Bluegrass, fescue and ryegrass** grow best from 60 to 75° F.
- Late August to mid-October is an ideal time to plant seed of these cool-season grasses.
- **Bermudagrass and zoysia grass** grow best from 80 to 95° F.
- Seed, plugs or sprigs of these warm-season grasses should be planted between May 1 and June 30.
- Sod of cool-or warm-season grasses can be installed any time of the year, as long as the soil is not frozen.

Selecting a Fescue

- Fescue is the most popular lawngrass in middle Tennessee.
- Fescue grows best in deep, well-drained soils with air temperatures from 60 to 75 °F.
- High temperatures and drought slow their rate of growth during late spring and summer.

Tall Fescue needs full sun

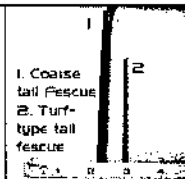


Fine Fescue will tolerate shade



Tall Fescues

- Tall fescue is a cool-season grass, well adapted to sunny or partially shady areas.
- When densely sown, a pure stand forms a moderate to coarse-textured lawn that is uniform in appearance with good weed and disease resistance.
- New varieties that are finer in texture and shorter in stature are known as turf-type tall fescues and dwarf turf-type tall fescues.



Fescue Seed Mixtures for Shade

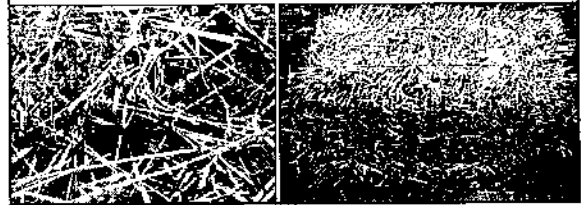
- Mixing seeds of several species may improve the insect, disease and wear resistance, recuperative capacity and shade tolerance of a turf.
- **Creeping red fescue** is a shade-tolerant, sod-forming species that grows well in humid areas.
- **Chewings fescue** has a bunch-type growth habit, excellent shade and cold tolerance, and is less tolerant of drought than strong creeping fescue.
- **Hard fescue** is more tolerant of high temperatures than chewings or strong creeping fescues.

Starting Fescue From Seed

- Sow **5 to 8 lbs.** of fescue seed for every 1,000 sq. ft.
- The best time to seed is **late August to mid-October**
- Seeds should germinate from 6 to 12 days.
- Cool temperatures and moist soils during late summer, fall, and early spring promote plant growth.
- Fescues may be seeded in early spring, but spring plantings often result in greater susceptibility to heat and drought stresses.
- Young fescue plants with limited root systems often do not survive the summer heat and dry conditions.

Straw after Seeding

- Straw or hay should be broadcast uniformly over the seedbed to cover 50 to 75 percent of the soil surface.
- A one **50-pound-bale** will cover about **1,000 square feet**.
- Straw often contains some weed seeds.



Watering the Lawn

- New grass seedlings may require light daily irrigation for several weeks after seeding.
- 1/8 to 1/4 inch or from about 75 to 150 gallons per 1,000 square feet.
- As plants increase in size, more water can be applied less often (1/2 inch or about 300 gallons per 1,000 square feet every two to three days).
- After new grass is 2 inches in height, apply 1 inch of water weekly to encourage deep rooting.

Fertilization & Liming

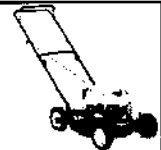
- The application of 1/2 pound of Nitrogen every 1,000 square feet, applied three to five weeks after seedlings emerge from the soil, will support continued plant growth.
- Fescue should be fertilized during its season of rapid growth, from fall to early spring.
(September, October, November - March, April)
- Only a soil test can tell you if your soil needs fertilization or liming.

Fertilizers (N, P & K)

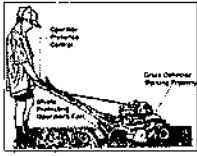

- 20-10-5 (What do these numbers mean?)
- **A 50 pound bag of 20-10-5 fertilizer contains:**
 - 20% nitrogen (.20 x 50 lbs = 10 lbs)
 - 10% phosphorus (.10 x 50 lbs = 5 lbs)
 - 5% potassium (.05 x 50 lbs = 2.5 lbs)
- **Nitrogen** promotes green stems and grass blades
- **Phosphorus** encourages blooming and root growth
- **Potassium** promotes strong plants and disease resistance

Mowing the Lawn

- Mow when the grass reaches a height about 1 1/3 times the proper cutting height.
- Tall fescue looks best when mowed **3" high**.
- In dry summers and when growing in heavy shade, mowing to **3" high** helps the grass tolerate its environment.
- Keep the mower blade sharp and mow when the lawn is dry.
- Fescue seedlings may be easily torn or lifted from the soil by a dull mower blade.

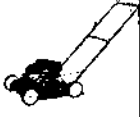


Lawn Mower Safety

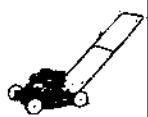
Products in agriculture and home industries. They both have sharp, heavy blades that can cut or crush. The danger from
 blades is all the more so because of the speed of the blades. For more information on safety, contact your local
 OSHA office or the National Institute for Occupational Safety and Health.

Lawn Mower Accidents




- Four types of power lawn mower accidents cause the majority of injuries.
 - 1) Contact with rotating blade
 - 2) Propelled objects
 - 3) Overturning
 - 4) Riding mowers running over the victim

Before Starting the Mower



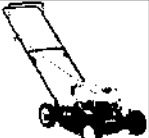
- Put on close fitting clothes and sturdy, non-slip shoes.
- If the lawn is wet – wait!
- Go over the lawn carefully to pick up stones, wire, toys, dog bones – anything the mower blade might pick up and throw.
- Adjust cutting height before starting mower.
- Never point discharge chute at others.
- Turn off the mower before you leave it.

While You are Mowing



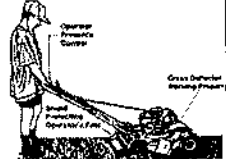
- Never run mower over gravel, stones or hard, immovable objects like pipes, rocks or sidewalk edges.
- Mow advancing forward whenever possible so you can see where you're going.
- Stay clear of the blade housing and the discharge chute.
- Never point discharge chute at others.
- Before refueling, turn of mower to cool down motor.

Mowing the Lawn

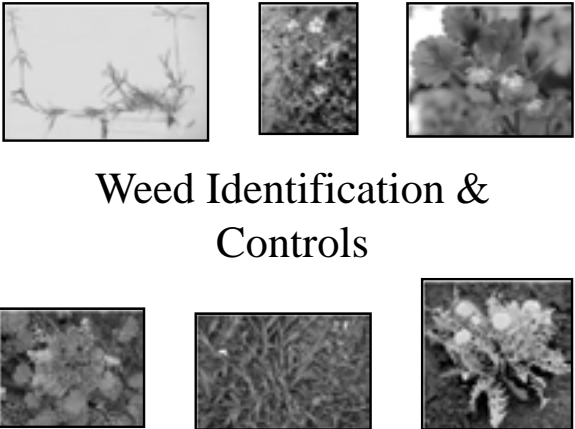


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Lawn Mower Safety



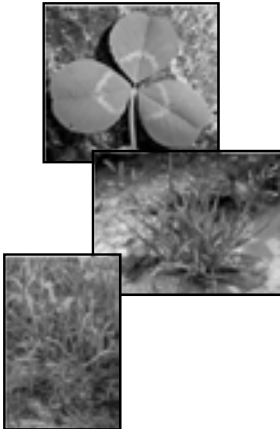
- Read the operator's manual
- Train operator
- Check your lawn before mowing
- Check guards and shields
- Dress properly to do the job safely
- Handle gasoline with care



Weed Identification & Controls


Weed Types

- **Broadleaf Weeds:** Leaves are broad, detached from main stem by sub-stem or petiole, have a netted appearance, may be simple or compound.
- **Grass Weeds:** Leaves are narrow, not detached from main stem, veins run parallel.
- **Sedges:** Are not grasses, but similar in appearance, leaves have a triangular stem.



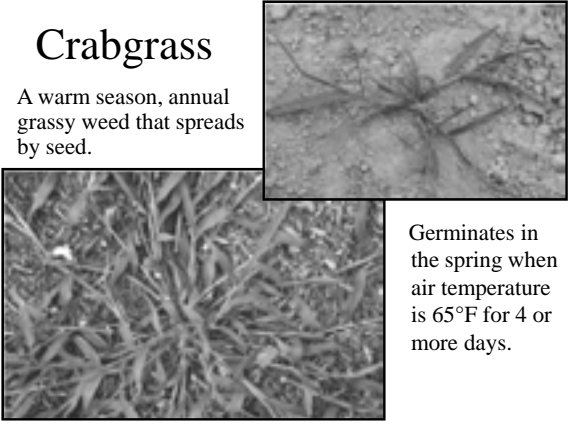
Life Cycles

- **Summer Annuals:** Generally germinate in spring, grow in summer, produce seed and die in late fall or after first hard frost. 12 month life cycle.
- **Winter Annuals:** Germinate in late summer to early fall and begin to grow, are dormant or semi-dormant in winter, flower the following spring and die in late spring or early summer. 12 month life cycle.
- **Perennials:** Live for more than 2 years, may regenerate indefinitely; spread by seeds, stolons, rhizomes or nutlets.



Crabgrass

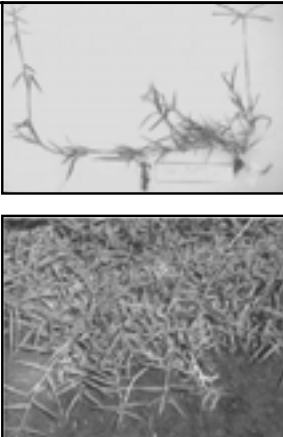
A warm season, annual grassy weed that spreads by seed.



Germinates in the spring when air temperature is 65°F for 4 or more days.

Bermudagrass

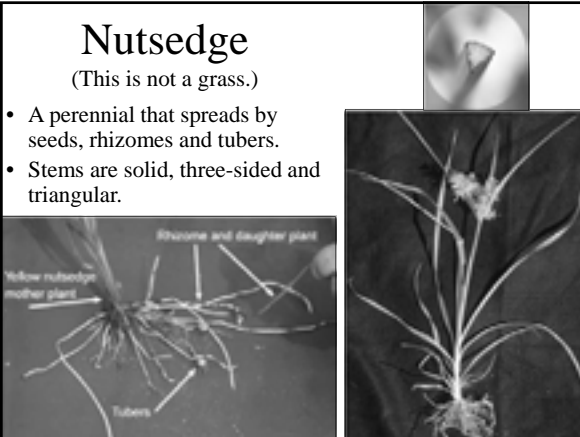
- A warm season, perennial grass that spreads by seed and roots.
- A warm-season grass.
- Will not grow in the shade.
- Grows well in hot weather



Nutsedge

(This is not a grass.)

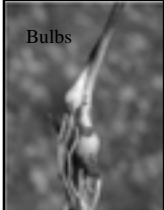
- A perennial that spreads by seeds, rhizomes and tubers.
- Stems are solid, three-sided and triangular.




Wild Garlic

(cool-season perennial)

- Spreads by underground bulbs and aboveground bulblets.
- You can identify this weed by its strong garlic odor and its long, hollow cylindrical leaves.


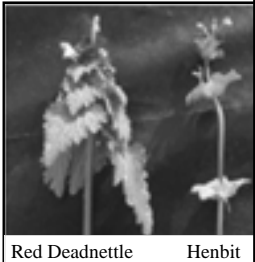


Bulbs



Red Deadnettle



- A cool season, annual, that spreads by seed.
- Closely resembles henbit, except that all of its leaves have petioles; the leaves of henbit do not have petioles.

Red Deadnettle Henbit




Henbit

- A cool season, annual weed that spreads by seed.
- Leaves are opposite, almost circular with rounded teeth.
- Flowers are pink to purple arranged at the base of the leaves.




Common Chickweed

- A cool season, annual weed that spreads by seed.
- The small flowers have five white, deeply notched petals.



Mouseear Chickweed

- A cool season perennial that spreads by seed.
- Has hairy leaves and tiny, white flowers..

Oxalis

- A perennial that spreads by seed.
- Flowers have 5 bright yellow petals.
- Leaves are divided into three heart-shaped parts.

Dandelion

- A perennial that spreads by seed.
- The seeds are carried by the wind.



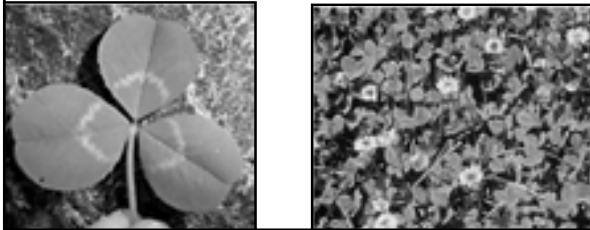
Indian Strawberry

- A warm season perennial weed.
- Reproduces by seed and spreading stolons that root at the nodes.
- Each leaf is composed of three parts.
- Yellow flowers and a red berry.



White Clover

- A warm season perennial that spreads by seed and roots.
- Each leaf has three parts.
- The flower heads contain 20 to 40 small, white flowers.
- Leaflets usually have a green or white marking.



Wild Violet

- A perennial plant with heart-shaped leaves and purple flowers.
- Spreads by bulbs.



Herbicides to Prevent Weeds

- Apply to the soil to kill weed seeds as they germinate.
- It does not control established weeds.
- Used for **pre-emergence** control of annual grasses and certain broadleaf weeds in turfgrass.



Herbicides to Kill Established Weeds



- Kills only broadleaf weeds.
- Will not hurt the lawn grass

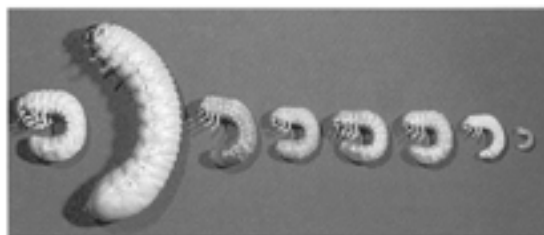
Herbicides that kill Weeds and Grass

- Will kill weeds and grass.
- Will kill flowers.
- Will kill vegetables.
- Will injure trees and shrubs.



White Grub Pests of Lawns

White grubs are the most common turf pests in Tennessee



Grub pests of turf (left to right): May/June beetle, green June beetle, European chafin, meadow chafin, Japanese beetle, Oriental beetle, Asiatic garden beetle, and black turfgrass miner.

Adult Stage of White Grubs

Japanese Beetle



Adult stages of turf grub pests (left to right): May/June beetle, green June beetle, European chafin, southern meadow chafin, northern meadow chafin, Japanese beetle, Oriental beetle, Asiatic garden beetle, and black turfgrass miner.

White Grub Control

- Apply during Mid-June through Mid-July.
- Will control white grubs for three months.



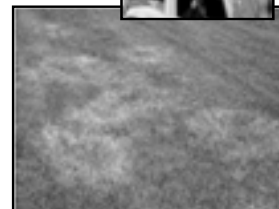
White Grub Control

- Apply in March to May or Mid-July to Mid-August.
- Will kill the white grubs when they feed on grass roots.



Brown Patch Disease

- The most serious disease of tall fescue during summer.
- **May to July** is prime brown patch season in Middle Tennessee.
- Brown patch often develops when temperature reach **90°F during the day** and **70°F at night**.



Brown Patch Disease Control

- **Chlorothalonil** or **myclobutanil** applied as a foliar spray prior to hot, humid weather prevents brown patch development.
- Most fungicides have to be applied at **14 day intervals** when conditions favor disease development.



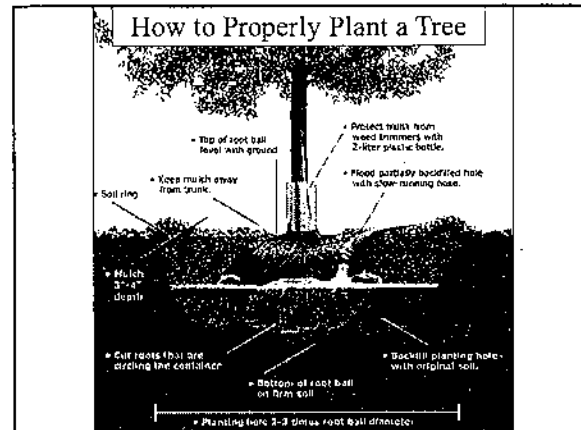
Keeping a Healthy, Green Lawn

- **Plant Grass in the Right Place:** Full sun (8 hours or more)
- **Control Weeds:** Broadleaf and Grassy Weeds
Preemergence (Sept. 1 to Oct. 15) (Feb. 1 to March 15)
- **Fertilize:** March 15, April 15 – (½ lb per 1,000 sq. ft.)
Sept. 1, Oct. 15, Nov. 15 – (1 lb per 1,000 sq. ft.)
- **Mowing:** 2" tall in Spring & Fall – 3" tall in Summer
- **Water When Needed:** From 5 am to 11 am to allow the grass blades to dry
1 to 1½" of water per week
- **Control Insects and Diseases:** White Grubs & Brown Patch Disease

Planting and Pruning Trees



David Cook
University of Tennessee

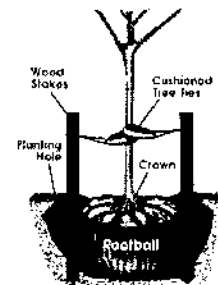


Backfill

- It is best to use the same soil that was taken out of the hole.
- Fill the hole up halfway with soil and water slowly.
- Finish filling the hole with the backfill and water.
- Make sure to work the soil around the ball firmly to eliminate any air pockets.

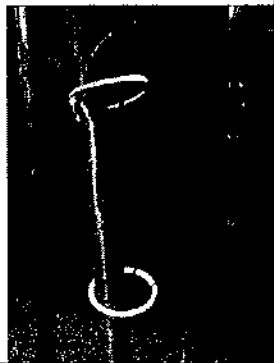
Staking

- Staking is not always needed.
- Staking can be used to stabilize the root ball, keep mowers away from the tree, or help keep the tree upright.
- Keep guy wires on for only one growing season.



Remove Tags, Labels, & Rope

- Remove all tags, labels, and ropes.
- This will prevent the trunk of the tree or a branch from being girdled as it grows.



Damage caused by wire-in-hose left on 2 years



Watering

- Water slowly to prevent runoff.
- Keep the soil moist, but not soaked.
- Over-watering causes leaves to turn yellow and fall off.
- Water trees at least once a week and more frequently during hot weather.
- When the soil is dry below the mulch, it is time to water again.

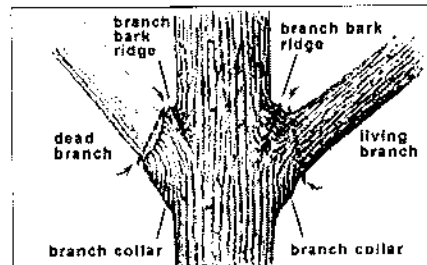
Mulching

- Mulch should be 3 to 4 inches thick.
- The mulch needs to be placed in a donut or tire shape around the trunk of the tree.
- The mulch must be kept away from the trunk to keep insects away and to prevent suffocation of the tree.

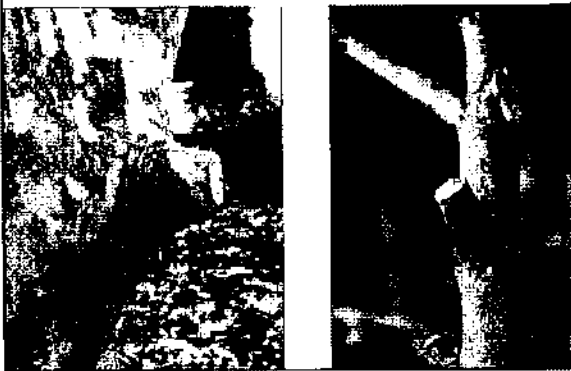


Correct Pruning Cuts

- Pruning cuts should be made just outside the branch collar.



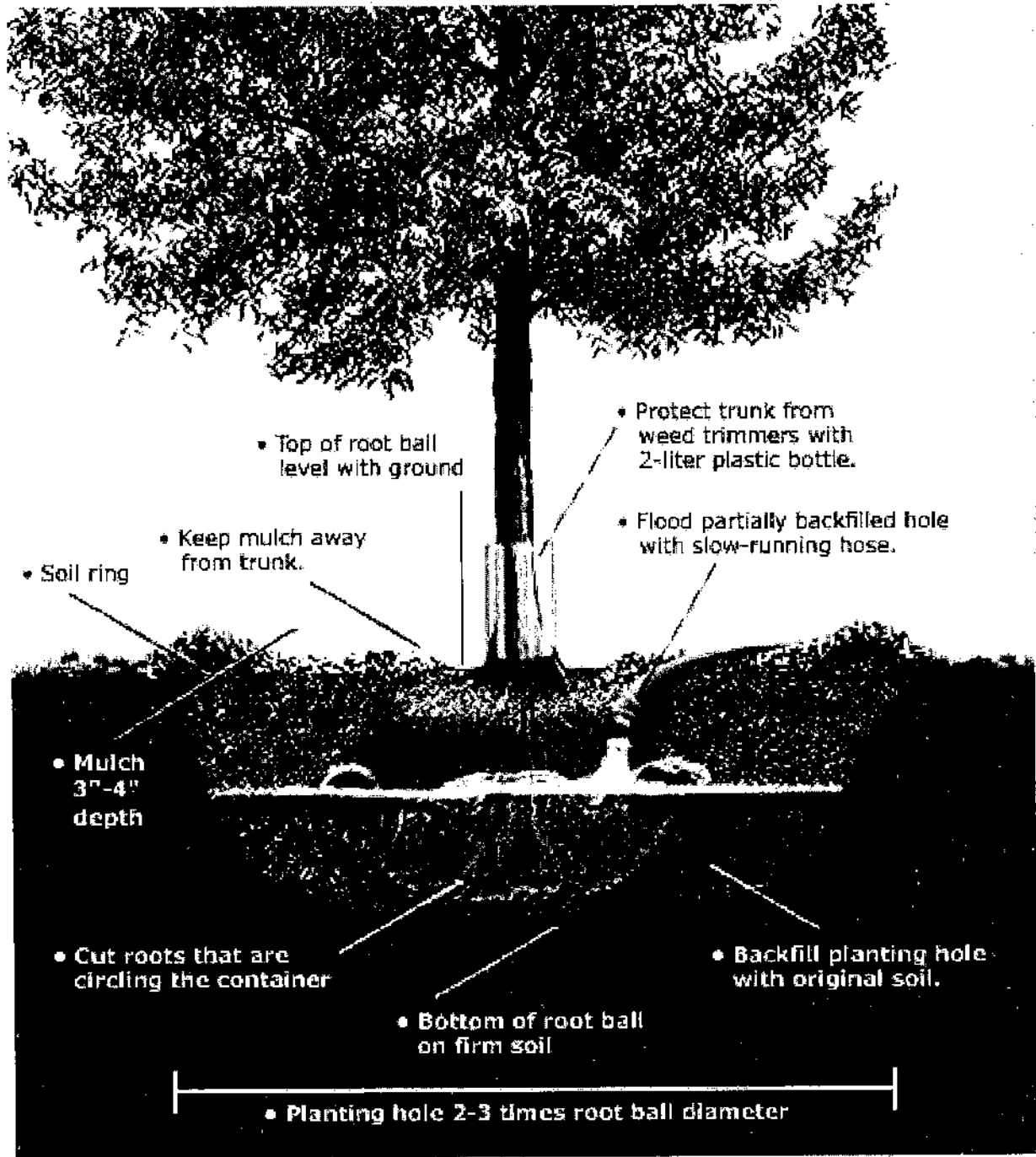
Bad Pruning Cuts Leave Stubs



These pruning cuts healed properly.



Plant Your Tree Properly



Celebrate our natural heritage and protect native plant communities

1. Learn more about native plants.
2. Buy nursery propagated plant material.
3. Don't dig plants from the wild.
4. Protect native plant and natural area habitat.
5. Promote responsible landscaping practices.
6. Plant native and not exotic plant species.

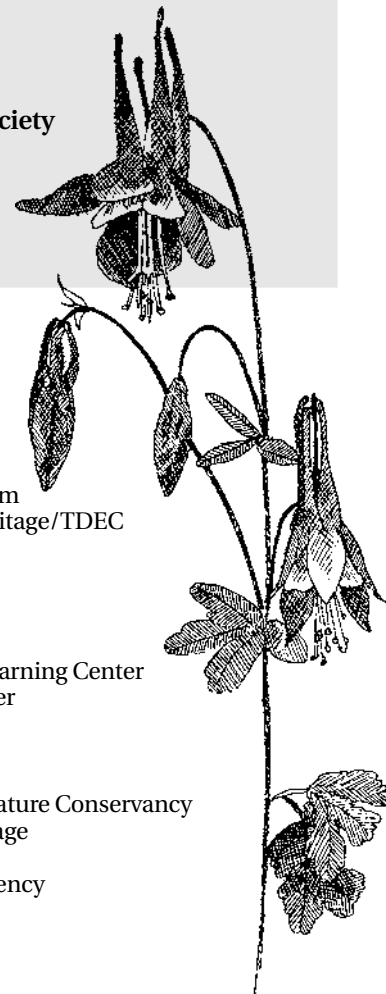
For more information

Warner Park Nature Center
7311 Highway 100
Nashville TN 37221
615/352-6299

Tennessee Dept. of Environment and Conservation (TDEC)
Division of Natural Heritage
401 Church Street, 8th Floor
Nashville TN 37243-0447
615/532-0436

Tennessee Exotic Pest Plant Council (TN EPPC)
P.O. Box 40692
Nashville TN 37204
615/532-0436

Tennessee Native Plant Society
Department of Botany
University of Tennessee
Knoxville TN 37996-100
615/532-0439



Text by
Warner Park Nature Center
Tennessee Natural Areas Program
in the Division of Natural Heritage/TDEC

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Tennessee Native Plant Society
Tennessee Field Office of The Nature Conservancy
TDEC Division of Natural Heritage
TDEC Bureau of State Parks
Tennessee Wildlife Resource Agency
Tennessee Valley Authority

MIDDLE TENNESSEE

Central Basin and Highland Rim



LANDSCAPING WITH NATIVE PLANTS

PROMOTES BIODIVERSITY
and endorses a land ethic that celebrates our natural heritage

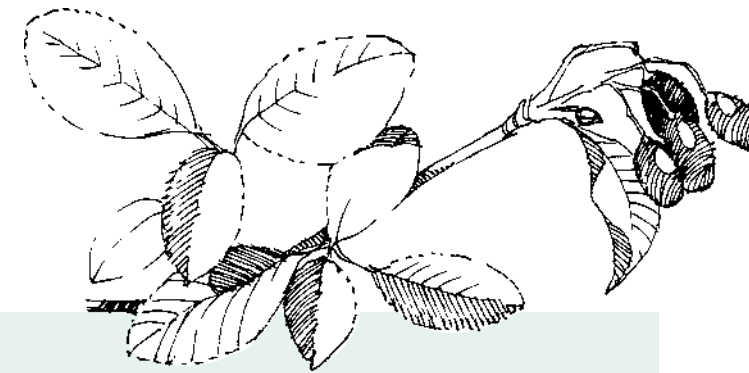
Our natural heritage

The use of native plants in landscaping is a celebration of our natural heritage and an awakening of a land ethic first expressed by Aldo Leopold more than 50 years ago.

The natural processes from which natives evolve represent the cog and wheel of a healthy ecosystem sustained by a complex web of biological diversity.

Native plants have many inherent qualities and adaptive traits that make them aesthetically pleasing, practical, and ecologically valuable for landscaping.

Using native plants contributes to the health and often the restoration of an ecosystem. Landscaping with natives in an urban setting helps restore regional character and places fewer demands on resources.



Native
species naturally occurring in a region (indigenous)

Exotic
species introduced by humans, either deliberately or accidentally (alien, non-native)

What are natives?

Natives are plants that evolved over geologic time and are distributed across the landscape largely in response to climatic episodes and adaptation to site conditions related to land formation.

Natives are generally defined as plants that occurred in North America before European settlement. This distinction is made because of the large-scale changes in the flora that have resulted since European settlement and the introduction of "exotic" plants.

Exotics are plants that are directly or indirectly, deliberately or accidentally introduced by human action. To be more precise, natives are natural elements of a regional landscape. While some species are native to North America, they may be exotic to Middle Tennessee.

Natives vs. exotics

While many exotics are harmless, others pose serious threats to biodiversity. Exotics that escape and naturalize change the floral composition of native plant communities. Exotics that invade native plant communities spread, out-compete, and displace natives. Other exotics are vectors for disease and exotic insects. Future introductions can be prevented by using native species.

Using natives also exhibits regional flora and promotes our natural heritage. Natives have often been overlooked and their aesthetic value ignored. Instead, many regions look the same because overuse of the same exotics has created a monotonous, predictable landscape.

Basics about using natives

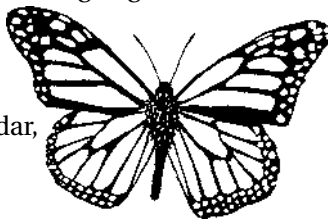
When landscaping with natives match the right plants with the right site conditions. Consider using plants that occur together in their natural habitats. Do your homework before planting; study the plants and the site condition information in this brochure. Visit a natural area and observe how plants occur and design your landscape accordingly. Buy nursery propagated plants. Remember, landscaping with natives is art imitating nature.

Benefits of natives

- Adapted to regional conditions and may require less maintenance and are cost-effective.
- Hardy, withstand extreme winter cold, do not suffer from die back.
- Environmentally friendly, require fewer pesticides and fertilizers because of natural adaptations.
- Promote biodiversity and stewardship.
- Provide food and shelter for native wildlife.
- Restore regional landscapes.
- Prevent future exotic introductions.

Natives for wildlife

Using natives in landscaping helps sustain native butterflies, moths and other beneficial insects; native birds, reptiles, mammals, and other fauna. Fall migrating birds depend on high-energy fruits from flowering dogwood and spicebush. Spring migrants feed on insects that occur on oak trees. Beech and other native trees provide nesting habitat, while Eastern red cedar, Virginia pine, and American holly provide winter cover and food.



- **Don't dig plants from the wild.**
- **Buy nursery-propagated plant material.**

