

Using and ordering this guide

This book was developed by the USDA Natural Resources Conservation Service as an aid in identifying trees and shrubs and to aid in their use for conservation purposes.

Many of the trees and shrubs are growing at or near one of more of the plant materials centers operated by the Natural Resources Conservation Service nationwide. These centers develop plants for conservation uses and release to commercial growers for public use. Some of the tree or shrub cultivars that have been developed and released by the Natural Resources Conservation Service are named in this guide.

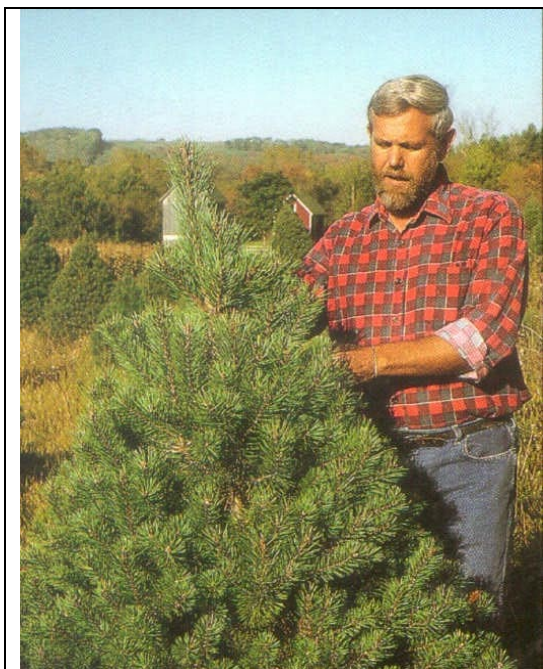
Natural Resources Conservation Service foresters and plant materials specialists helped compile the information in this guide.

Help available

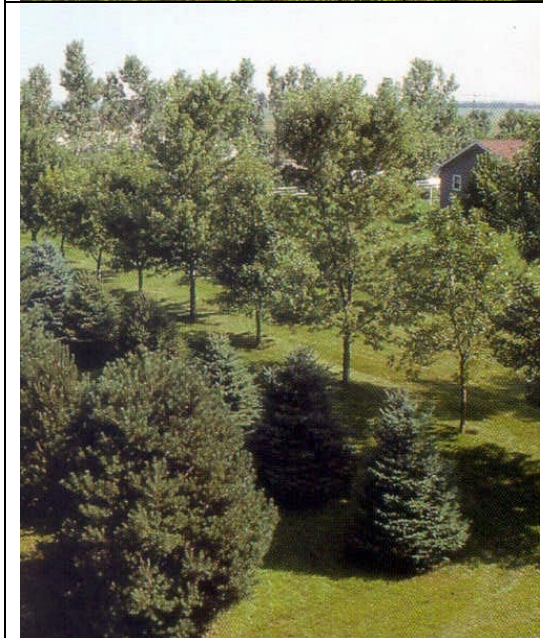
Advice on tree and shrub planting, care and conservation uses is available at no cost. The Natural Resources Conservation Service, the Extension Service, state forestry agencies, conservation districts and private nurseries have specific information. Information is also available from the USDA Forest Service.

In many cases, at least partial funding is available to plant trees and shrubs for conservation purposes. Local offices of the agencies listed above have details.

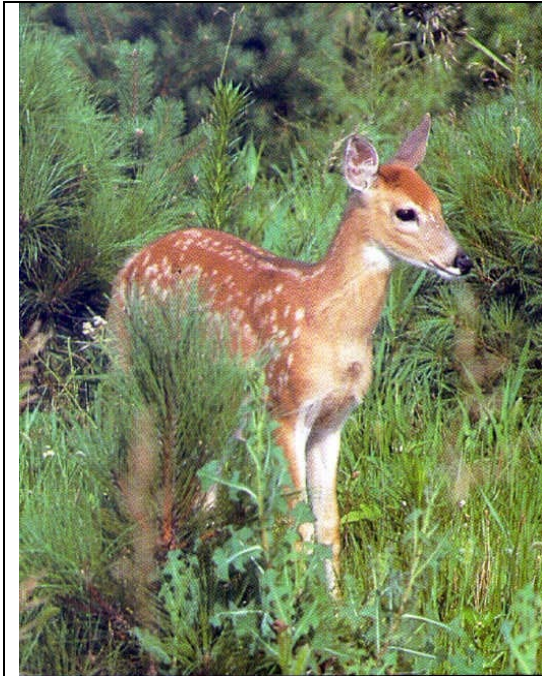
Ten ways to use trees



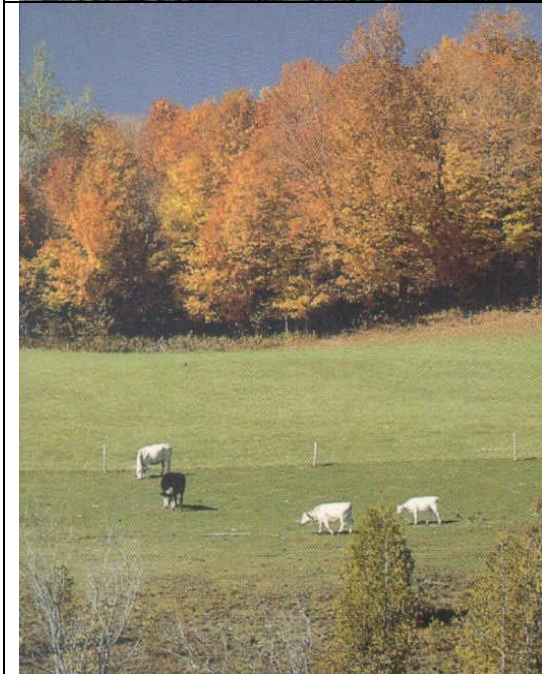
1. **Cut soil erosion** Rows of trees break the wind on flatter lands and healthy forests protect soil from water erosion on hillsides.
2. **Improve air & water quality** A forest floor of leaves and decaying wood acts as a giant sponge by absorbing, holding and filtering water; one acre of trees provides fresh, clean oxygen for seven people and will clean the air polluted by eight cars operated for 12 hours.
3. **Increase income** Properly managed trees can provide excellent sources of income, such as the sale of trees or wood products.



4. **Save energy** Recent studies show windbreaks can reduce winter fuel consumption by 10 to 30 percent. Trees also save energy by shading -- one tree has the cooling effect of five air conditioners.
5. **Protect livestock** Trees reduce the wind and can significantly reduce animal stress. Livestock not only need less feed, but their gains are higher. Shade provided by trees is also helpful to animals on very hot summer days.



6. **Sound barrier** Trees and windbreaks reduce noise from high-speed traffic and other sounds. Plant leaves, branches and twigs all absorb sounds of different frequencies.
7. **Home for wildlife** Wooded areas make valuable cover, nesting and breeding areas for upland game and songbirds. In winter, when all other food is blanketed with snow, seeds and fruits of trees and shrubs provide food for nonmigratory species.



8. **Living snow fence** In snow country, properly locating a living fence of trees and shrubs parallel to your driveway or highway helps hold snow on the fields and off the roads.
9. **Improve crop yields** Soil particles blown by strong winds frequently damage small crops. Yields also may be lowered by the effects of hot winds. Trees protect against these hazards.
10. **Beautify the countryside** Well-kept wooded areas, windbreaks and other tree plantings undeniably enhance the aesthetic value of individual farms and the countryside.

Care of trees and shrubs

- Fence from livestock
- Water in early morning hours as necessary during early growth
- Cultivate, mulch or spray to control weeds
- Protect small trees from rodents
- Thin weaker trees from old plantings
- Prune only damaged limbs
- Correctly identify specific insect or disease problems before treatment

Planting a seedling

1. Keep roots moist at all times.
2. Dig a hole as deep and twice as wide as the roots.
3. Place the seedling in the center of the hole.
4. Fill the hole with moist soil, firming the soil around the roots by hand. Be sure there are no air pockets.

A word about windbreaks

Windbreaks — rows of trees and shrubs — slow the wind to protect farmsteads, crops, livestock and homes. A windbreak on three sides of a building can cut annual fuel bills by as much as 30 percent, reducing wind chill in winter and making shade in the summer. Livestock are similarly protected; young crops in fields are protected from hot, dry winds and the sand blasting effects of blowing soil.

Tree and shrub windbreaks are habitat for wildlife. They beautify the landscape, stop blowing snow, screen out noise and dust and serve as living privacy fences.

Using the Hardiness Zone Map

The Plant Hardiness Zone Map below was drawn from one issued by the US Department of Agriculture in 1990. Adapted from earlier versions, the map's zones represent average annual minimum temperature ranges.

Trees and shrubs in this guide list a hardiness zone, the coldest zone in which the tree or shrub normally succeeds. No effort was made to identify southernmost zones for heat adaptability or for range of adaptability

The Plant "Cold" Hardiness Zone is an indicator, and should not be used as the sole source to determine whether a particular tree or shrub will survive in a specific location.

USDA Plant Hardiness Zone Map

