Trees for disturbed sites

The exposed site and disturbed soils, often compacted and alkaline, found in developments create an environment that is hostile to the growth of many trees. Before planting in new developments do the following:

Check drainage by digging a 2-foot deep by 2-foot wide hole where you plan to plant and add a couple of gallons of water. If water remains in the hole for more than 24-hours, consider the site **poorly drained**.

Check the soil pH by submitting a sample to the university soils lab (contact your local county extension educator for forms and a bag). If the test shows a pH above 7.5, the site is very **alkaline**.

Trees on poorly-drained, alkaline sites often fail to thrive and usually produce small, chlorotic (yellow) leaves. If you must plant on these sites follow the instructions inside this brochure and select your tree from the following.

In South Dakota the best choices for trees to plant on these sites include the following:

- Bur oak (*Quercus macrocarpa*)
- Cockspur hawthorn (*Crataegus crusgalli*)
- Discovery elm (*Ulmus davidiana* var. *japonica*)
- Green ash (*Fraxinus pennsylvanica*)*
- Hackberry (*Celtis occidentalis*)
- Swamp white oak (*Quercus bicolor*)
- Thornless honeylocust (*Gleditsia triacathos* var. *inermis)*

** Ash planting should be limited due to the threat of emerald ash borer.*

This research and brochure was made possible by a grant from the USDA Forest Service Urban and Community Forestry Program on the recommendation of the National Urban and Community Forestry Advisory Council.

South Dakota Division of Resource Conservation and Forestry

523 East Capitol Ave.
Pierre, SD 57501-3182

Phone: 605-773-3623
Fax: 605-773-4003
Web site: http://sdda.sd.gov/conservation-forestry

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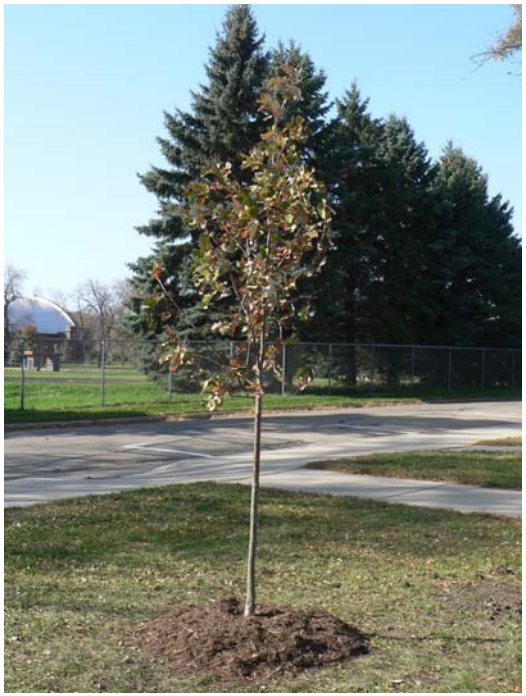
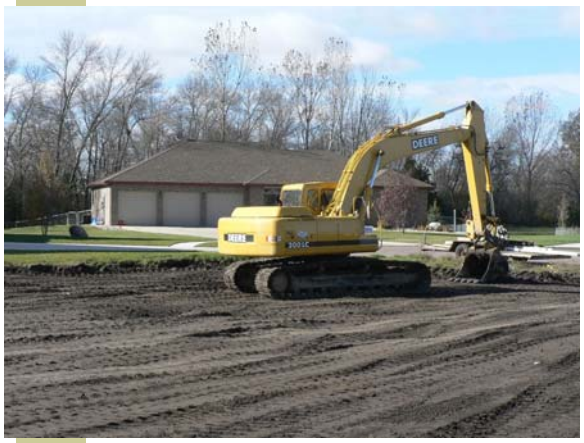
South Dakota Division of Resource Conservation and Forestry

Planting Trees on Disturbed Sites: A guide to establishing trees in new suburban developments

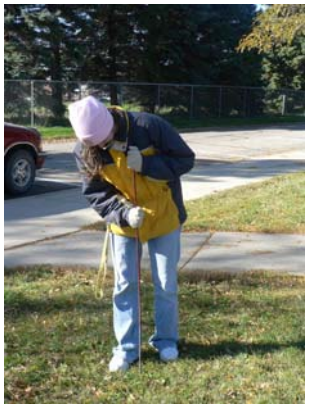


Planting trees on disturbed sites



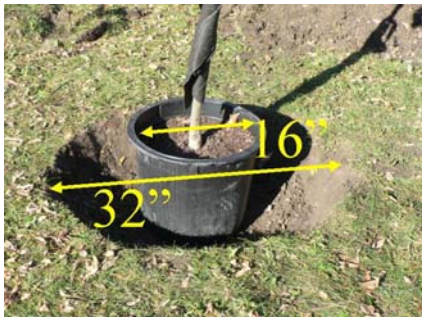
Many communities are enjoying a building boom with new home sites replacing farmland and pastures. These new housing sites are a particular challenge to homeowners when it comes to establishing trees. While the existing soil may once have had the desired properties to support field and forage crops, the process of building the home often results in its destruction or replacement . The topsoil is usually scraped off and the subsoil compacted by machinery. A thin layer of topsoil is eventually placed back upon the subsoil. This disturbed soil is not conducive to planting trees as it will not drain properly and the turning of the subsoil increases its alkalinity. This bulletin will cover how homeowners can modify these sites to improve success with transplanted trees and shrubs.

Evaluating the site

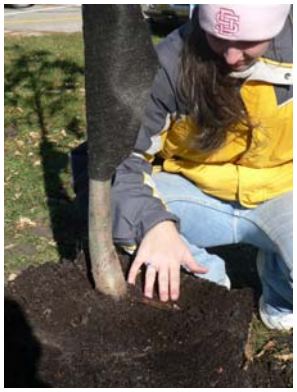


Test the upper foot of soil to determine pH and compaction. Disturbed soils are often alkaline and poorly-drained. This can limit your choice of trees (see back panel). A simple test of compaction can be the force required to push a rerod to a depth of one foot in moist soils. Compacted soil or horizons will require significant force or be impenetrable.

Planting the Tree

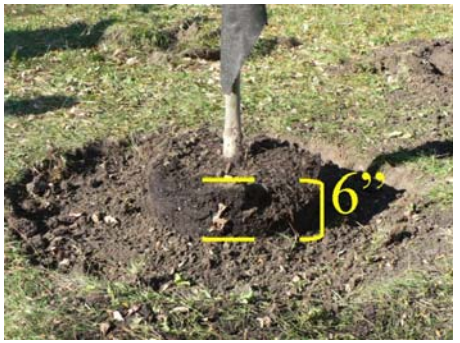


The planting begins with the construction of the planting hole. The sloped hole should be about two to three times the diameter of the container but not as deep. Trees are often placed too deep in the container as a means of stabilizing them. If the depth is not corrected at planting, the tree will be placed too deep in the soil. To determine the correct depth, carefully remove the tree from the container and brush the soil away from the top.



Continue brushing away until the first root is exposed. Just above this point is the correct soil line for the top of a berm.

A berm should be constructed so that 6 inches of the ball is above the ground and the soil built up around it Our research has shown that planting a tree on a slight berm improves survival and growth. Do not construct the berm with purchased topsoil or compost as abrupt changes in soil can impede water movement. Try to use soil from the site.



Next add a 3-inch layer of shredded bark mulch but leave a 6-inch opening around the base. The tree should be staked the first year.