

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
SOUTH DAKOTA SUPPLEMENTS ITALICIZED**

TREE/SHRUB ESTABLISHMENT

**(ac.)
CODE 612**

DEFINITION

To establish woody plants by planting or seeding.

PURPOSES

To establish woody plants for forest products.

To provide erosion control for landscaping and for energy conservation.

To reduce air pollution.

To reduce water pollution by the uptake of soil and water borne chemicals and nutrients.

To beautify an area.

To protect a watershed.

To provide wildlife habitat.

**CONDITIONS WHERE PRACTICE
APPLIES**

On any areas where woody plants are suited and desirable.

CRITERIA

**General Criteria Applicable To All Purposes Named
Above**

Species Selection

Species will be adapted to soil-site conditions. *Please refer To Windbreak Interpretations in Section II of the South Dakota Technical Guide (SDTG).*

Species will be suitable for the planned purpose. *Please refer to Table 1 as a general guideline for species that are acceptable.*

Spacing

Planting or seeding rates will be adequate to accomplish the planned purpose.

Spacing may vary depending on the need for mechanical weed control measures recommended by the plan.

As a general guideline, spacing should not be less than 5 ft. by 5 ft. or greater than 12 ft. by 12 ft. for most plantings.

Planting Techniques

Planting dates and care in handling and planting of the seed or seedlings will ensure that planted materials have an acceptable rate of survival.

Trees shall be planted in the early spring after the frost is out of the ground and before the first day of June.

Do not plant on extremely hot, dry days or when the wind is extremely strong and dry.

Trees may be planted by hand or with a suitable planting machine.

Before planting, tree roots must be kept moist at all times by covering with moist burlap, or other proven method of seedling protection.

Seedlings should not be exposed to the air for more than 30 seconds.

Planting holes or trenches must be deep enough to accommodate seedlings without bending roots. Roots should be spread out as close as possible to a natural position during planting.

Stock shall be planted with the root collar even with the ground line.

Soil shall be packed well around the roots to eliminate all air pockets around the roots. The seedling should not be easily pulled from the ground.

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our website at www.sd.nrcs.usda.gov or may be obtained at your local Natural Resources Conservation Service.

Only viable, high quality, and adapted planting stock or seed will be used. *Tree seedlings or cuttings must be from proven seed or tree sources.*

Site Preparation

Site preparation shall be sufficient for establishment and growth of selected species.

Planting sites must be prepared according to specification for Forest Site Preparation (490).

Adequate seed or advanced reproduction needs to be present or provided for when using natural regeneration to establish a stand.

Timing and use of equipment will be appropriate for the site and soil conditions.

Maintenance and Protection

The acceptability and timing of coppice regeneration shall be based on species, age, and diameter.

The planting will be protected from adverse impacts such as livestock damage or fire.

Tree plantings must have weeds controlled so that lower branches are not shaded.

TABLE 1

SPECIES TO USE FOR VARIOUS PURPOSES					
Species	Forestation Plantings		Christmas Tree	Fuel Wood	Block Plantings (Wood Lots)
	Conifer sites*	Hardwood sites**	Plantations	Plantings	
<i>Ponderosa pine</i> (<i>Pinus ponderosa</i>)	X		X		X
<i>Rocky Mountain juniper</i> (<i>Juniperous scopulorum</i>)	X				X
<i>Eastern redcedar</i> (<i>Juniperous virginiana</i>)	X				X
<i>White spruce</i> ^{1/} (<i>Picea glauca</i>)	X		X		X
<i>Colorado blue spruce</i> (<i>Picea pungens</i>)			X		
<i>Austrian pine</i> (<i>Pinus nigra</i>)			X		
<i>Scotch pine</i> (<i>Pinus sylvestris</i>)			X		X
<i>Douglas fir</i> (<i>Pseudotsuga menziesii</i>)			X		X
<i>Black walnut</i> (<i>Juglans nigra</i>)		X ^{2/}			
<i>Bur oak</i> (<i>Quercus macrocarpa</i>)		X			X
<i>Green ash</i> (<i>Fraxinus pennsylvanica</i>)		X		X	X
<i>Hackberry</i> (<i>Celtis occidentalis</i>)		X			X
<i>Honeylocust</i> (<i>Gleditsia triacanthos</i>)				X	X
<i>Cottonwood</i> (<i>Populus deltoides</i>)		X		X	X
<i>Silver maple</i> (<i>Acer saccharium</i>)				X	
<i>Hybrid poplars</i> (<i>Populus sp.</i>)				X	
<i>Willows</i> (<i>Salix sp.</i>)					X
<i>Siberian elm</i> (<i>Ulmus pumila</i>)				X	

* Please refer to Woodland Interpretations, Section II

** Includes bottomland sites – WSG's 1 & 2 soils; benchland sites – WSG's 1, 3, and 5 soils; and upland sites – WSG 3 soils.

^{1/} includes Black Hills spruce.

^{2/} only in MLRA 102B.

CONSIDERATIONS

When underplanting, trees should be planted sufficiently in advance of overstory removal to ensure full establishment.

On sites where damage from pests is likely, control devices or methods should be considered.

Prescribed burning may be required for natural regeneration of serotinous cone species and for site preparation for other species.

Plantings on slopes of three percent or greater must have companion practices for erosion control.

All planting stock and seed should be purchased from nurseries that are known to be using locally adapted seed, seedlings, or cuttings. Priority will be given to plant materials that have been selected and tested in tree improvement programs. All plant materials should comply with the minimum standards established by the American Nurseryman Standards Institute.

Plans for landscape and beautification plantings should consider foliage color, color and season of flowering, and mature plant height.

Where multiple species are available to accomplish the establishment objective, consideration should be given to selecting the species which best meets wildlife needs.

Tree arrangement and spacing should allow for access lanes.

Residual chemical carryover should be considered prior to planting.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

Adapted tree species for the purposes outlined, spacing, planting methods, cultural practices and maintenance requirements that are applicable; and variations in methods and species between interplanting, underplanting, and planting in open areas. Separate specifications can be prepared for each of these planting methods.

OPERATION AND MAINTENANCE

Competing vegetation will be controlled until the woody plants are established.

Replanting will be required when survival is inadequate.

Trees and shrubs will be protected from fire, insects, disease, and animals until established.

Supplemental watering may be desirable to ensure adequate survival.

Damaging pests will be monitored and controlled.

Periodic applications of nutrients may be needed to maintain plant vigor.