

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

TREE/SHRUB ESTABLISHMENT

(Ac.)

CODE 612

DEFINITION

Establishing woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration.

PURPOSES

- Forest products such as timber, pulpwood, and energy biomass
- Wildlife habitat
- Long-term erosion control and improvement of water quality
- Treating waste
- Storing carbon in biomass
- Energy conservation
- Improving or restoring natural diversity
- Enhancing aesthetics

CONDITIONS WHERE PRACTICE APPLIES

Tree/shrub establishment can be applied on any appropriately prepared site where woody plants can be grown.

Utilize other Conservation Practices such as 391, Riparian Forest Buffer; 311, Alley Cropping; 380, Windbreak/Shelterbelt Establishment; and 422, Hedgerow Planting, for specialized tree/shrub establishment situations.

CRITERIA

General Criteria Applicable to All Purposes

Composition of species will be adapted to site conditions and suitable for the planned purpose(s).

Species considered locally invasive or noxious shall not be used.

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

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

Only viable, high-quality, and adapted planting stock or seed will be used.

A precondition for tree/shrub establishment is appropriately prepared sites. Refer to Conservation Practice 490, Tree/Shrub Site Preparation, and Kansas Forestry Technical Note KS-9, Tree/Shrub Establishment and Maintenance Guidelines, for information concerning planting site preparation.

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

Selection of planting technique and timing will be appropriate for the site and soil conditions.

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

The planting will be protected from plant and animal pests and fire. If pesticides are used, refer to Conservation Practice 595, Pest Management, as appropriate.

Each site will be evaluated to determine if mulching, supplemental water, or other cultural treatments (e.g., tree protection devices, shade cards, brush mats) will be needed to assure adequate survival and growth.

Additional Criteria for Treating Waste

Species used to treat waste shall have fast growth characteristics, extensive root systems, high nutrient uptake capacity, and tolerance of the planned effluent.

Additional Criteria for Improving or Restoring Natural Diversity

Composition of species selected for planting or those favored for natural regeneration will be native to the site and create a successional stage or state that can progress to the potential natural plant community.

Additional Criteria for Storing Carbon in Biomass

The species and plant communities that attain biomass more quickly will sequester carbon faster. The rate of carbon sequestration is enhanced as trees and/or shrubs mature and soil organic matter increases. Select plants that have higher rates of growth and potential for carbon sequestration in biomass and are adapted to the site. Plant species at the appropriate stocking rate for the site.

CONSIDERATIONS

Priority should be given to plant materials that have been selected and tested in tree/shrub improvement programs. All plant materials should comply with minimum standards such as those as established by the American Nursery and Landscape Association, Kansas Forest Service, or state-approved nursery. Refer to Section II of the electronic Field Office Technical Guide (eFOTG), Kansas Forestry Technical Notes KS-9 and KS-10, and appropriate conservation practice standards and specifications for plant materials recommendations.

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

Consider using species which best meet local wildlife needs.

Tree/shrub arrangement and spacing should allow for and anticipate the need for future access lanes for purposes of stand management.

Residual chemical carryover should be evaluated prior to planting and alter species selection and/or timing of planting/seeding.

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

PLANS AND SPECIFICATIONS

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

OPERATION AND MAINTENANCE

Access by vehicles or equipment during or after tree/shrub establishment shall be controlled to protect new plants and minimize erosion, compaction, and other site impacts. Refer to Conservation Practice 472, Access Control.

The trees and shrubs will be inspected periodically and protected from adverse impacts including insects, diseases or competing vegetation, fire, and damage from livestock or wildlife.

If needed, competing vegetation will be controlled until the woody plants are established. Noxious weeds will be controlled. If pesticides are used, refer to Conservation Practice 595, Pest Management.

Replanting will be required when survival is inadequate. Refer to Kansas Forestry Technical Note KS-9.

Supplemental water will be provided as needed.

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

After trees and/or shrubs are established, refer to the Conservation Practices 660, Tree/Shrub Pruning, and 666, Forest Stand Improvement, for subsequent management.