

Minnesota Ecological Science Job Approval Authority

Tree & Shrub Establishment (612)

DEFINITION:

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



Job Classes	Control Factors
	Complexity of establishing plant material & Site sensitivity
Job Class I	Container stock; potential seedling mortality low
Job Class II	Bare-root stock or cuttings; potential seedling mortality moderate
Job Class III	Direct seeding or natural regeneration; any seedling mortality rating
Job Class IV	All

CONTROL FACTORS: Complexity of establishing plant material & site sensitivity. Type of planting stock; potential seedling mortality rating from Soil Survey. Potential for seedling mortality ratings indicate the likelihood of death of naturally or artificially propagated tree seedlings, as influenced by soil characteristics, physiographic features, and climatic conditions. Considered in the ratings are flooding, ponding, depth to a water table, content of lime, reaction, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The report is found in Web Soil Survey; determine AOI; Soil Data Explorer; Suitabilities and Limitations for Use; Land Management; Potential for Seedling Mortality. **Please see Minnesota Guidance for further information on potential seedling mortality and awarding job classes.**

National KNOWLEDGE, SKILLS, AND ABILITIES (KSA):

1. Knowledge of forest ecology and management for the local area
2. Knowledge of silvics of tree species to be established
3. Knowledge of soil health and management

Minnesota Guidance: Typically, award the same job class for all three practice phases.

Potential seedling mortality rating can be replaced by utilizing the Minnesota Conservation Tree/Shrub Group (CTSG) excel workbook found on the MN FOTG; Section 2; Soils – Statewide Official Data & County Reports; Conservation Tree Shrub Groups.

MINNESOTA KNOWLEDGE, SKILLS, AND ABILITIES (KSA) needed:

All Phases: Inventory and Evaluation (I&E) Planning, Design and Development of the Conservation Practice Requirements, and Installation, Oversight, and Certification

-Job Class I-

- Read & understand the conservation practice standard, guidance document, implementation requirements, and statement of work (SOW).
- Ability to document environmental benefits of a tree and shrub planting. Conservation planners must be proficient in calculating soil loss.

- Understanding of care, planting dates, site prep, and planting rates for containerized and balled/burlap stock.
- Ability to locate potential seedling mortality rating in Web Soil Survey **OR** ability to use and understand the MN Conservation Tree/Shrub Group excel workbook.
- Ability to use applicable wildlife habitat evaluation guides (WHEG).
- General knowledge of Minnesota Forests (native species, hardwood communities, etc.), common forestry goals (*production, overall wildlife, hunting, aesthetics*), proper planting techniques (*tree planter, direct seeding, hand planting*), establishment techniques, site conditions (hydrology, soil capability, landscape position).
- Ability to select trees that will control soil erosion.
- Understand techniques to prevent trees from wildlife damage.
- Knowledge of Minnesota Seed Law.
- Knowledge of Minnesota Noxious Weed Law and Noxious and Invasive species list.

-Job Class II-

- All requirements from Job Class I.
- Understand site preparation, planting methods and equipment for bareroot stock or cuttings.
- Understand care of planting bareroot stock or cuttings prior to planting.
- Ability to design a tree and shrub planting at the correct planting or seeding rate for the landowner's goals/objectives and type of stock in combination with the resource concern being addressed.
- Ability to select species and planting techniques that will control soil erosion.
- Ability to select species appropriate for site conditions such as hydrology, soil type, topography, ecology and other conditions.
- Knowledge of tree and shrub pests and diseases that may influence species selection and management.
- Understand grass and weed control techniques for tree/shrub plantings.
- Ability to identify tree/shrub species.

-Job Class III-

- All requirements from Job Class I.
- Understand direct seeding rates, care of seed, planting dates, and method of seeding based on species of seed.
- Understand site prep for direct seeding or natural regeneration.
- Understanding of CPS Forest Stand Improvement (666) and Tree/Shrub Site prep (490) for the purpose of natural regeneration.

Job Class IV

- All requirements from Job Classes I, II, and III.

COMMON ASSOCIATED PRACTICES: Tree/Shrub Establishment (612) is commonly associated with conservation practices such as Tree/Shrub Site Preparation (490), Upland Wildlife Habitat Management (645), Brush Management (314), Herbaceous Weed Treatment (315), Pest Management Conservation System (595), Forest Stand improvement (666), Windbreak/Shelterbelt Establishment and Renovation (380), Silvopasture (381), Alley Cropping (311), and Access Control (472).