

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION

380 - WINDBREAK / SHELTERBELT ESTABLISHMENT

I. SCOPE

The work shall consist of site preparation, planting and maintaining suitable species to establish a windbreak. The location and layout of the windbreak shall be as shown on the plans or drawings or staked in the field.

II. SPECIES

The trees and shrubs to be planted or renovated are listed in the NRCS eVegGuide or approved by NRCS State or Area Forester or with the Lockeford Plant Materials Center.

III. SITE PREPARATION

Refer to Tree/Shrub Site Preparation (CPS 490) practice specifications for site preparation requirements.

IV. PLANTING STOCK

Only viable planting stock grown from locally adapted seed or vegetative material will be planted. Planting stock will be maintained in good condition from the time received until planted. This will include, but not limited to, unpacking, storage, heeling in, transport to the planting site, and keeping plants protected and moist until and during planting.

A. Care of Seedlings

1. Bareroot stock seedling care before planting:
 - a.) Store plants in enclosed areas from 34 to 40 degrees F. off the floor..
 - b) If ice is utilized, do not allow contact with the roots.
 - c) Bales of plants should not be stored higher than 3 feet.
 - d) Roots will be facing one way for periodic watering and fungicide treatment. Seedling roots will be kept moist
 - e) Heel-in beds. Make a trench with one 30 to 45-degree backslope. Line out planting stock against sloped side and backfill. Pack soil firmly around the roots. Keep roots 1 to 2 inches below the ground line.

Water as needed. A moderately course-textured soil is preferred. The heel-in bed should be shaded and protected.

2. Containerized Stock seedling care before planting (This includes all stock in any type of container, i.e. tar paper, gallon cans, containers, etc):
 - a) Seedlings will be stored at 34 to 40 degree F temperatures.
 - b) The soil medium will be kept damp.
 - c) The seedlings will be shaded and protected.

B. Planting

Machine planting or hand planting with any tool that is adapted to the planting stock and site conditions may be used.

Keep seedlings covered and moist while planting. Ample water, or a water-saturated material (burlap, sawdust moss, etc.) must be kept in all planting containers to insure the seedlings remain moist.

1. The windbreak will be staked or otherwise marked to assure proper alignment of rows and spacing.
2. Plantings will be made after the danger of heavy freezing has past and soil moisture conditions are proper. Soil moisture conditions may be waived if plants are watered at the time of planting.
3. Plant in adequately sized, sod-free holes or furrows for proper root development.
4. Plant seedlings in a nearly vertical position with the root collars approximately 1 inch below the soil surface. Plant seedling roots straight down, not twisted, balled, or J-shaped.
5. Pack the soil firmly around the planted stock to avoid air pockets.

C. Protection

Chicken wire tree protection - Chicken wire with a mesh that does not exceed 1 inch will be shaped to form a cylinder minimum of five inches in diameter and 18 inches high. A minimum of 24 inch 1x2 stake with 18 inches extending above the ground will be used to support the stake by 2 evenly spaced staples or

tie wires. The chicken wire will be flush with the ground. The barrier must be removed when the trunk diameter is within one-half inch of the chicken wire diameter.

Rigid polypropylene - mesh tube tree protection.

Tubes will be of a diamond pattern with a minimum 30 mil. strand diameter. The tubes will be a minimum of a 5-inch diameter and 18 inches high. The tubes will be fastened to a 24 inch 1x2 stake with 18 inches extending above the ground by one staple or a tie wire. The tubes will be flush with the ground.

V. OPERATION AND MAINTENANCE

The following actions shall be carried out to ensure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance):

A. Operation

Supplemental water will be provided as needed.

Inspect drip irrigation systems bi-weekly during the irrigation season to make sure that emitters are not plugged and restricting water flow.

Damaging pests will be monitored and controlled.

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

Plantings will be protected from rodents, rabbits, and deer. Means of animal control may include either chemical repellents or mechanical devices such as fences, screens, traps, etc. Where net wire fencing is used to control rabbits and rodents, it will extend at least 4 inches below ground surface. When individual trees are wrapped with burlap or tar paper, the material will be removed in the spring.

Minimize fire hazards by maintaining an isolation strip clear of crop residues, weeds and trash for the life of the planting. The minimum width shall be:

- a) At least 8 feet wide.
- b) The width of the cultivation equipment plus 4 feet.

B. Maintenance

Replacement of dead trees or shrubs will be continued annually until the barrier is functional.

Replant with the same species or one that is suitable to the soils and is compatible with the original planting.

Thin trees and shrubs to maintain barrier function. Prune and shape storm-damaged trees.

C. Weed Control

Control competitive vegetation until the ground surface is completely or nearly completely shaded by the trees and shrubs during the growing season.

Use hand, mechanical, and/or chemical means^{1/} to control weeds, grasses, and other competitive vegetation. Do not disturb or otherwise damage seedlings by the improper use of chemicals, tools, or machinery.

Mechanical

Cultivate between the rows with a shovel, sweep-type cultivator, or double disc. Do not cultivate deeper than 3 inches.

Cultivate within the row with within-the-row cultivators, over-the-row cultivators, or hand hoeing. Do not cultivate deeper than 3 inches.

Discontinue cultivators after August 1, or when weed control is adequate.

Chemical

When weed control is done chemically¹, the following precautions will be observed:

- Chemicals must be applied on no less than a 24-inch band over the row.
- Chemicals must be applied according to soil type, age of trees, and species. They can be applied as sprays or in granular form.

¹ Chemical application rate recommendations will be made by a licensed applicator, farm advisor or others licensed to do so in California.