

Windbreak/Shelterbelt Establishment

North Carolina Practice Job Sheet 380

Prepared for: _____

Prepared by: _____

Farm: _____ Tract: _____ Date: _____

or shelter downwind (leeward) areas from troublesome winds.



PURPOSE

Windbreaks are used to reduce wind erosion, protect growing plants (crops and forage), alter microenvironment for enhancing plant growth, manage snow deposition, protect structures/livestock and improve irrigation efficiency. Tree/shrub height and foliage density greatly influence the leeward area that is protected or sheltered.

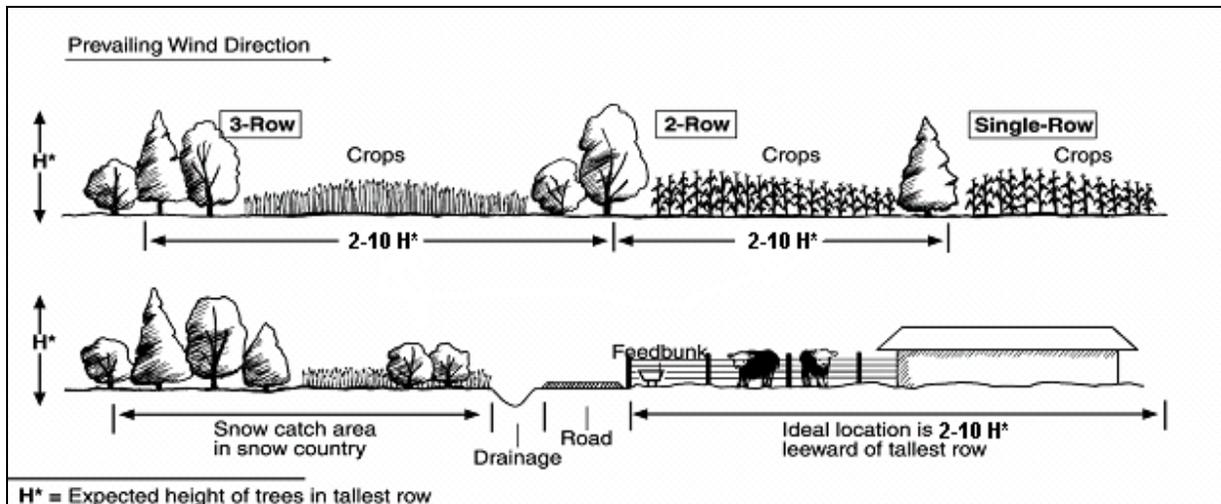
Additionally, windbreaks can provide wildlife habitat and travel corridors, enhance aesthetics, increase carbon storage, control views, reduce noise; and intercept chemical drift and odors.

DEFINITION

Windbreaks are “environmental buffers” planted in a variety of settings including cropland, pasture, farmsteads, confined animal operations, and urban areas. They consist of plantings of single or multiple rows of trees or shrubs that are generally established to protect

APPLICATION

Windbreaks and shelterbelts are normally established concurrently with other practices as part of a resource management system for a conservation management unit. For example: conservation crop rotation, residue management, and windbreaks all work together in concert to control wind erosion year-round.



A windbreak or shelterbelt usually consists of multiple rows, with shrubs in the outer rows and taller trees in the interior. Complementary practices work with these environmental buffers to further control wind erosion and snow deposition and modify site characteristics for habitat and screening purposes. For comprehensive protection of a field, windbreaks are placed in a series across the area (typically spaced at intervals of 5 to 10 times the height of each windbreak), with individual windbreaks running parallel to one another, but perpendicular to prevailing winds.

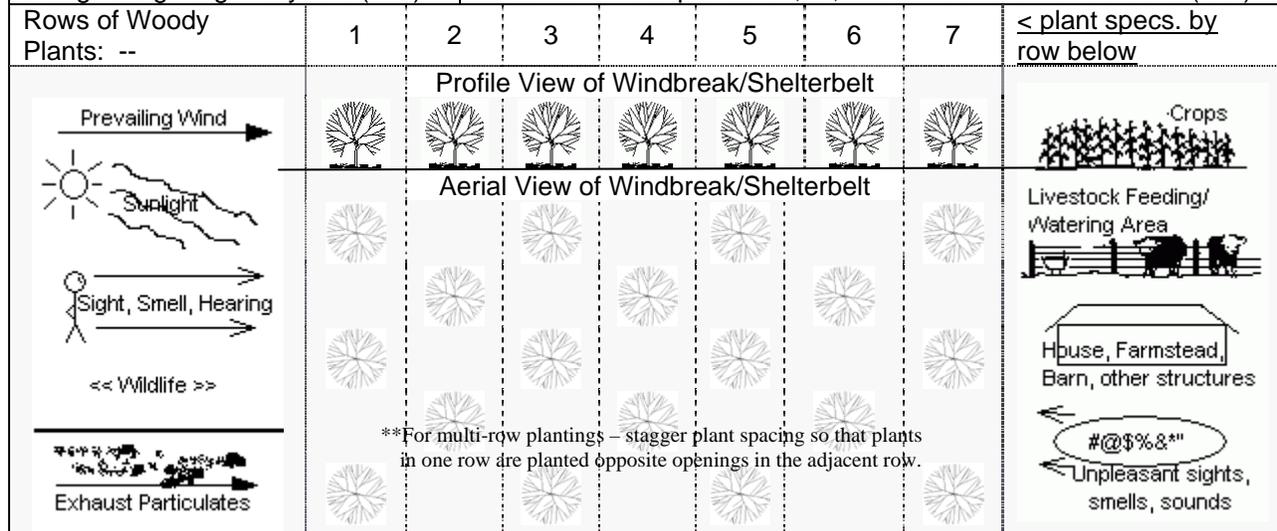
Prepared for _____ Tract _____ Field number _____

Purpose (check all that apply)	
<input type="checkbox"/> Reduce soil erosion from wind	<input type="checkbox"/> Provide visual screens
<input type="checkbox"/> Protect plants from wind-related damage	<input type="checkbox"/> Delineate property and field boundaries
<input type="checkbox"/> Alter microenvironment for enhancing plant growth	<input type="checkbox"/> Improve air quality by reducing and intercepting air borne particulate matter, chemicals and odors
<input type="checkbox"/> Manage snow deposition	<input type="checkbox"/> Improve irrigation efficiency
<input type="checkbox"/> Provide shelter for structures, animals and people	<input type="checkbox"/> Increase carbon storage in biomass and soils
<input type="checkbox"/> Enhance wildlife habitat	
<input type="checkbox"/> Provide noise screens	

Layout, Arrangement and Design Protection

Design Width (feet; include maintenance areas next to outer rows): _____ Design Length (feet): _____

Design Height-age 20 years (feet): _____ Effective zone of protection; or, interval between windbreaks (feet): _____



WOODY PLANT MATERIALS LIST AND PLANTING SPECIFICATIONS Species/cultivar by row number ¹	Kind of stock	Planting Dates	Distance between plants within row (ft)	Distance (ft) from this row to next row ²	Total plants needed
1					
2					
3					
4					
5					
6					
7					

¹Include size, caliper/collar diameter, height, and age as applicable.
²Adjusted for width of maintenance equipment.

Additional Design Notes or Requirements:

Prepared for _____ Tract _____ Field number _____

Installation Instructions (contact local NRCS office for help with layout and installation)

CAUTION: Check for any utilities (underground or overhead) before planting windbreak/shelterbelt!!!!

Site Preparation

Remove debris and control competing vegetation to allow enough spots or sites for planting and planting equipment. Prepare supplemental moisture materials for installation if required by trees and/or shrubs.

Note: Specific pesticide recommendations will be obtained from personnel who are licensed by the NC Department of Agriculture and Consumer Services in specialty area Agricultural Pest Plant Category O - in accordance with North Carolina Pesticide Laws and Regulations.

All pesticides must be registered for use by North Carolina and approved for use by the U. S. Environmental Protection Agency (EPA). Refer to the current issue of "North Carolina Agricultural Chemicals Manual" for guidelines, rules and regulations regarding use of pesticides. Users must **always** follow instructions and safety precautions on the container label when handling, applying, or storing pesticides.

Additional requirements:

Cultural Practices

Fertilizer, weed barrier/moisture conservation fabric, or other cultural items required at planting and specified below.

Temporary Storage of Planting Stock

Planting stock that is dormant may be stored temporarily in a cooler or protected area. For stock that is expected to begin growth before planting, dig a V-shaped trench (healing-in-bed) sufficiently deep and bury seedlings so that all roots are covered by soil. Pack the soil firmly and water thoroughly.

Additional requirements:

Planting Methods

For container and bare root stock, plant stock to a depth even with the root collar in holes deep and wide enough to fully extend the roots. Pack the soil firmly around each plant. Cuttings are inserted in moist soil with at least 2 to 3 buds showing above ground. For burlap-balled stock, dig a hole at least 2 times the root width and depth.

Additional requirements:

Compliance with Federal, State and Local Laws

Installation and application of this practice **MUST** comply with all applicable federal, state and local laws or ordinances!

Additional requirements:

Operation and Maintenance

Establishment: Replace dead or dying tree/shrub stock and continue control of competing vegetation to allow proper establishment. As a guide: replace any dead plants in first 2 years; after 2 years, replace dead plants to maintain 85% survival, and not leave two adjacent dead plants. Provide supplemental irrigation if required.

After establishment: Thin/prune as required to maintain function. Inspect periodically for pest problems (insects and weeds). Protect from fire, livestock grazing, and herbicide damage. Apply fertilizer periodically as needed.

Additional requirements:

Certifications

Job Sheet	Plans & specifications prepared by:	Title:	Date:
	Approved by:	Title:	Date:
Installation	Meets NRCS standards and specifications? <input type="checkbox"/> YES <input type="checkbox"/> NO	Date:	
	Certification by:	Title:	

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