



# WINDBREAKS FOR POULTRY HOUSES

## Conservation Practice Job Sheet

Natural Resources Conservation Service (NRCS)

July 2003

### INTRODUCTION

Trees and shrubs can be planted around poultry houses to provide shelter from winter winds, reduce particulates from tunnel fans, create visual screens, and provide shade to reduce extreme summer heat.

This job sheet provides instructions for planting and maintaining trees and shrubs in good condition so that they can serve their intended purpose. Using proper planting and management techniques, especially during the establishment years, will significantly improve plant health and survival.

### SITE PREPARATION

The type and density of existing vegetation will determine how much site preparation you will need to do before planting. If grasses or weeds are tall, you should mow or brush hog the planting strips. It is recommended that the planting strips either be tilled up or treated with a non-selective herbicide such as glyphosate (for example, Roundup, KleenUp), following all label directions. Then plant the trees and shrubs.

### PLANTING

Trees and shrubs that are planted correctly will grow faster, and will more likely to survive, than ones that are planted incorrectly.

Always check for utility lines (gas, water, cable, electricity) before planting. Avoid planting on top of buried utility lines, or below overhead lines.

#### Plant Availability and Planting Dates

Containerized and balled-and-burlapped plants are usually available throughout the year. The preferred planting times are in the fall or early spring. Do not plant during the summer months when high temperatures and lack of rainfall will make survival very difficult, or in the winter if the ground is frozen.

To obtain recommended planting dates for the different types of woody plant materials, contact your local NRCS Field Service Center.



### Storing and Planting Techniques

Containerized and balled-and-burlapped stock can be stored for extended periods if they are protected. Store the plants in partial to full shade and water as needed to keep moist. Lift and carry the plant by the container or rootball, never by the branches or trunk.

These plant materials can be planted either by hand or by machine, depending on site conditions and available equipment. Larger stock is typically used when it is not feasible to wait for smaller plants to reach a desired size (such as for landscaping, visual screens, or windbreaks). Because larger stock is more difficult for most people to handle, installation by a professional landscaping contractor is recommended. See Figure 1 for instructions on hand planting smaller containerized stock.

Instructions for hand planting balled-and-burlapped plants are essentially the same as for planting containerized stock. Prepare a planting hole, and gently set the plant in the hole. Cut away any wire or twine from around the trunk. If the root ball is contained in a wire basket, some nurseries and arborists recommend leaving it on, while others say it should be removed.

**Land owners and managers please note:** *If you received cost-sharing for your windbreak, be sure to check with your funding agency/organization for specific management requirements.*

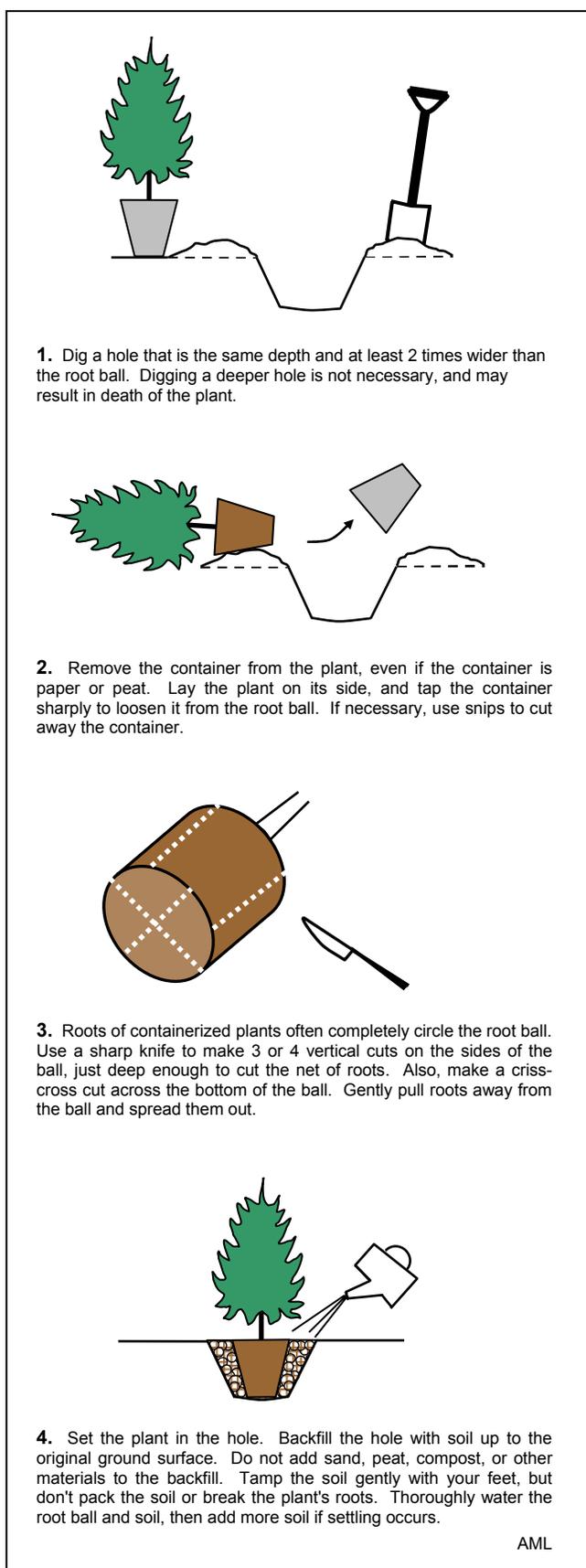


Figure 1. Hand planting containerized trees and shrubs.

Most experts recommend cutting and removing as much of the wire basket as possible, *provided you can do so without breaking up the root ball*. Avoid buying plants that have a plastic liner, because the liner must be removed and you will probably have to remove the basket to reach it.

For very large trees, it is best to leave the basket in place if there is no liner. Just remove any wire from around the trunk. Improper removal of a wire basket can result in serious damage to the root system that may outweigh any benefits derived from removal of the basket.

For burlap-wrapped plants, remove natural burlap and fasteners from at least the top half of the root ball, again being careful not to damage the roots. Avoid purchasing plants wrapped in plastic or synthetic fabrics. These must be completely removed because they can severely restrict the roots if left in place.

Do not try to "improve" the soil by adding sand, peat, compost, or other materials when backfilling a planting hole. Backfill soil should not be amended unless it contains large amounts of rock, construction debris, or other materials that will adversely affect plant growth. Trees and shrubs planted in natural soil without soil amendments are more likely to develop root systems that extend well beyond the planting hole. If planted in improved soil, roots will tend to remain confined in the original hole for a longer period of time.

### Staking

Trees may need to be staked if they have dense crowns, are more than 10 feet tall, or will be planted in windy locations. Use guy lines that won't damage the bark. Leave some slack in the lines so that trees will have slight amount of flex. Remove all stakes and guying materials after one year.

### Lime and Fertilizer

Newly planted trees and shrubs should not be limed and fertilized, unless soil tests show that pH and nutrients are extremely low. For most sites, it's best to allow the root systems of new plantings to become established before applying lime and fertilizer.

### Mulch

Mulch may be needed around newly planted trees and shrubs to retain moisture, stabilize soil temperature, control erosion, and suppress weeds. Hardwood or pine bark mulch is commonly available, and usually works well. Spread a layer of well-aged bark mulch (shredded, chipped, or nuggets) 2 to 3 inches thick around new plantings, but not within 3 inches of the trunk. A minimum 3-foot diameter circle of mulch is recommended around each plant. On steep slopes, use shredded bark mulch, rather than chips, because it is less subject to movement by water.

Do not over-mulch. Mulch that is too thick may absorb most of the moisture from light rain and inhibit water from reaching the roots. Thick mulch can also attract moles and voles. In addition, tree and shrub roots may try to grow upward into deep mulch.

## ESTABLISHING AND MAINTAINING THE PLANTING

### Establishing the Planting

**Planting year.** After planting, keep plants watered during dry periods. It can take at least 2 years before a tree or shrub develops a root system extensive enough to sustain itself. The feasibility of watering will depend on the size and location of the planting, availability of a water source, watering equipment, etc.

On well-drained loamy soils, new plantings usually need about 1 inch of water per week in summer and fall, and also during the spring if there is little rainfall. On sandy soils, plants may need up to 2 inches of water per week, preferably in two separate 1-inch waterings. On heavier soils or wet sites, plants may need less water. Watering should be sufficient to moisten the soil to the depth of the root ball—usually 1 to 2 feet deep.

Installation of a trickle irrigation system (instead of hand-watering) is recommended. Contact your local NRCS Field Service Center for a list of suppliers or irrigation companies. Be careful where you tap into your water system. Many integrators meter the water consumption for each poultry house.

Control weeds around plants by mowing, hand pulling, or treating with an appropriate herbicide. Mowing should be done with extreme caution to avoid damaging the stems or bark of plantings. Vegetation not immediately adjacent to the plantings can be left unmowed (except for noxious weeds, as described later).

If desired, herbicides can be spot-sprayed around plantings or applied to the planting strip. Follow specific label instructions to reduce or eliminate damage to trees and shrubs. Do not apply herbicides on windy days when spray drift can damage nearby plantings.

Control noxious weeds at all times according to Maryland state law. Noxious weeds are Johnsongrass, shattercane, Canada thistle, bull thistle, plumeless thistle, and musk thistle. For more information about controlling specific weeds in tree and shrub plantings, contact your local office of Maryland Cooperative Extension; the Maryland Department of Agriculture, Weed Control Section; or the Maryland Department of Natural Resources, Forest Service.

For windbreaks that are planted to reduce particulates from tunnel fans, a build-up of particulates on leaves may threaten to smother and kill the plants. When needed, periodically remove the accumulated particulate matter from the leaves by hosing the plants with water. Excessive accumulation of particulates may require installation of additional barriers such as fencing or netting to protect the plants.

**Second year after planting.** Continue to water plants, as needed. Control weeds by mowing, hand pulling, or treating with an herbicide. Always avoid damaging the plantings during mowing and herbicide application. If using mulch around plants, do not exceed a total thickness of 3 inches (new mulch, plus any remaining old mulch).

Continue to rinse particulates off plants, as needed. Replace any dead trees and shrubs until the barrier is functional.

### Maintaining the Planting

By the third year, the trees and shrubs should be well established. Continue to rinse particulates off plants and water them, as needed.

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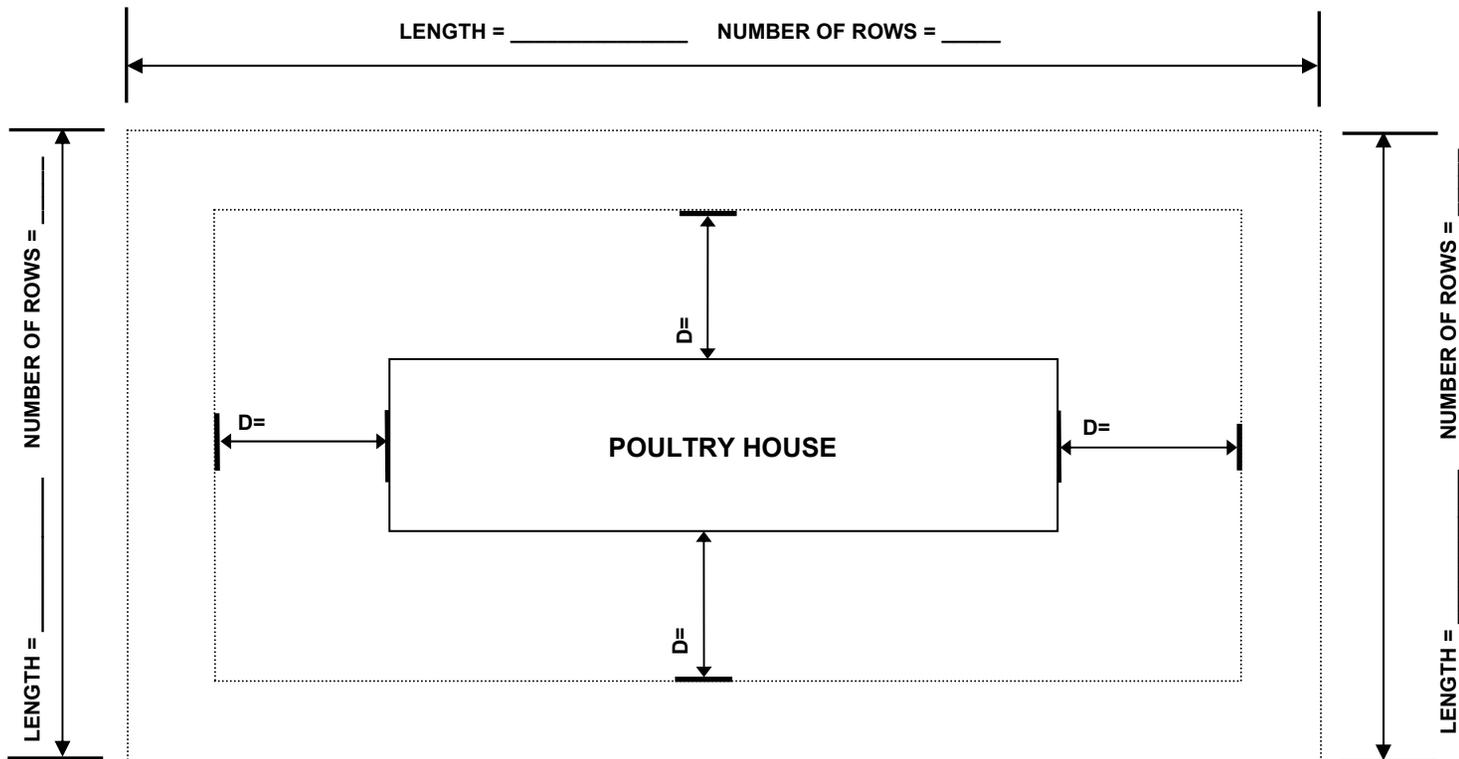
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WINDBREAKS for POULTRY HOUSES PLAN VIEW			
Landowner Name:	Poultry House No.:	Assisted By:	Date:

**SIDE A**



**SIDE D**

**SIDE B**

**SIDE C**

LENGTH = \_\_\_\_\_ NUMBER OF ROWS = \_\_\_\_\_

*SEE ATTACHED SHEETS FOR ADDITIONAL PLANTING REQUIREMENTS*



**Call before you dig!**  
**1-800-257-7777 in DE & MD.**  
**MISS UTILITY**  
**GIVE TWO BUSINESS**  
**DAYS NOTICE**