



# Weed Barrier Fabric Mulch for Tree & Shrub Plantings

## What is Weed Barrier?

Weed barrier fabric mulch is a polypropylene geotextile product with a texture like burlap. The woven fabric resists deterioration from exposure to sunlight. It is not plastic and will biodegrade. Minimum specifications for weed barrier fabric include: a written guarantee that the product will last a minimum of 5 years (ultraviolet resistance), a substrate weight of at least 3 ounces per square yard, minimum mullen burst strength of 325 pounds per square inch, permeable to water and a thickness of 15 mils (<sup>15</sup>/<sub>1,000</sub> of an inch). Fabric with these specifications can withstand deer trampling.

## How Does Weed Barrier Work?

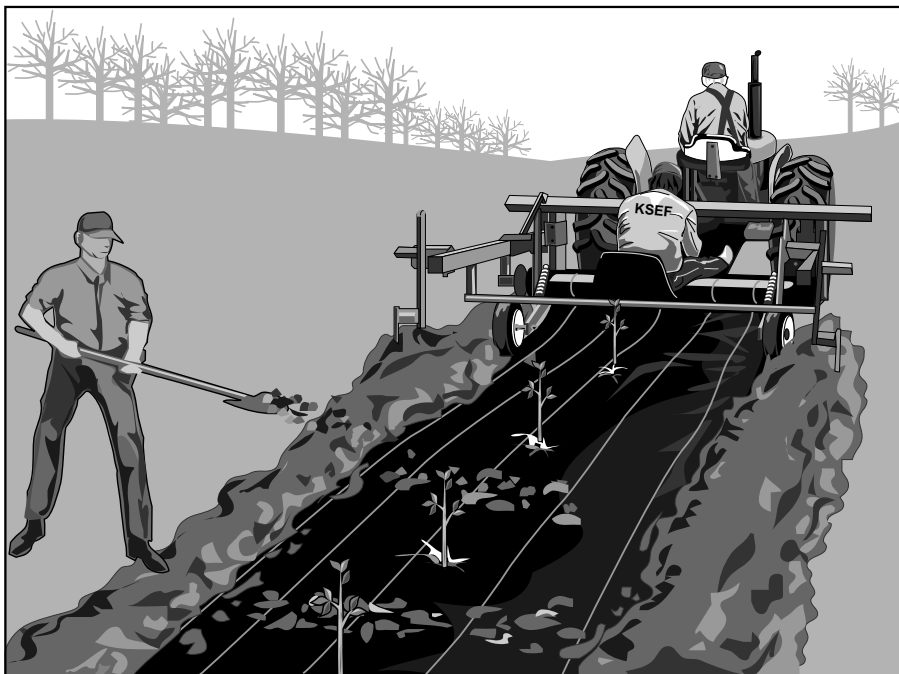
Weed barrier fabric eliminates vegetative competition with newly planted trees and shrubs by acting as a mulch. It conserves soil moisture by reducing evaporation. Water can penetrate weed barrier fabric, but sunlight cannot, so vegetation will not grow through it. Since the product is guaranteed for 5 years, it will provide effective control of weeds and grasses until trees and shrubs are established. In all but exceedingly dry years, supplemental watering is not necessary when fabric is used, assuming the soil is moist during planting.

## What are Weed Barrier's Dimensions?

Weed barrier comes in 300-foot to 750-foot rolls that range from 4 to 10 feet wide. The most common roll dimensions are 6 feet by 300 feet and 6 feet by 500 feet. The 500-foot-size reduces time spent changing rolls, but they are more cumbersome. It is also available in squares ranging from 3 feet by 3 feet to 6 feet by 6 feet. These sizes are secured to the ground with wire pins. For plantings where fabric squares are appropriate, the 4-foot- by 4-foot-dimension is recommended. Smaller sizes do not offer adequate protection from vegetative competition, while larger sizes are more difficult to handle and may cover more area than is actually needed.

## How is Weed Barrier Applied?

Six-foot-wide rolls are mechanically installed over the top of seedlings immediately after planting. A slit or X is cut at each tree location no larger than necessary to pull seedlings through. When excessive cuts are made in the fabric, weeds and grasses will emerge adjacent to the tree reducing the effectiveness of the mulch. Manufacturers suggest spotting seedling location with spray paint prior to cutting the fabric to avoid the accidental cutting of seedlings and to keep the size of cut to a minimum. Though limiting the size of cut is important, it must also be large enough



to prevent weed barrier fabric from rubbing against seedlings. This is the advantage of the X type cut. It also is crucial to pull seedlings through fabric immediately. On warm days the heat generated underneath the fabric can quickly kill tender young seedlings. It is best to avoid applying fabric on windy days.

## Starting a Roll

Fabric installation begins by placing a roll on the machine spool (figure 1). Weed barrier fabric is designed to unroll from the bottom instead of the top of the roll (shiny side up). Before lowering the packing wheels, unroll enough fabric in a straight line to clear the rear shovels. Carefully lower the packing wheels onto the fabric. Do not crawl under the machine. Cover the end of the fabric with 6 to 10 inches of soil.

Initially someone may need to stand on the edge of the fabric to keep it from moving. Adjust the machine so the rear shovels are 4 to 6 inches into the soil.

Front mounted discs open two furrows, while the packing wheels press the fabric edges into the furrows. The edges are held down by packing wheels until rear shovels throw 6 to 10 inches of soil on the fabric edges.

During installation it is important to make sure soil adequately covers the fabric edges. If the fabric is installed on slopes, water diversion bars should be formed out of soil at an angle which directs water away from the fabric.

A four-person crew is ideal for weed barrier installation. The crew includes: a tractor operator, someone riding the weed barrier machine marking seedling locations with a beginning cut or paint, a person completing the X cut and pulling seedlings through, and a person to shovel soil or place wire staples between the seedlings to hold the fabric down. Vegetation will germinate on the soil placed between seedlings. If this is undesirable, staples should be used.

It is possible for the lower portion of seedlings to be damaged by heat if the

fabric isn't pushed down against the soil surface. Air pockets can create an oven effect if left between the fabric and the soil. Damaging rodents can also use this space for habitat.

These problems can be solved by walking down the middle of the fabric while pulling seedlings through or by running tractor tires along the tops of the planting furrows prior to installing the fabric.

Tractor tires may also be run along fabric edges after installation to pack soil and further ensure that fabric will be held in place. When installation is going well, 100 feet can be installed in one minute. However it is best to take your time and avoid improper installation.

## Fabric Squares

Fabric squares are installed by hand. If fabric squares are purchased without cuts, it is best to make cuts prior to installation.

The squares are held in place by using 2-inch-wide wire staples (9 to 11 gauge). On clay and loam textured soils, 6- to 8-inch lengths are adequate. Sandy soils will require staples at least 10 inches long. Usually five staples are used per square (one at each corner and one adjacent to the seedling, figure 2).

It is easier to apply fabric squares when the soil is moist and the wind is not excessive. Fabric squares work well where mechanical equipment can't be used and for tree plantings of 300 trees or less.

## Site Preparation

Site preparation is important for seedling survival, growth and proper fabric application. Inadequate site preparation can make proper fabric installation impossible. Soil must be plowed or chiseled to a minimum 12-inch depth followed by disking or rototilling to remove clods or sod. When a desirable cover like native grass exists, cultivate a minimum 10-foot-wide strip at each tree row location. Do not disturb the native grass between tree rows.

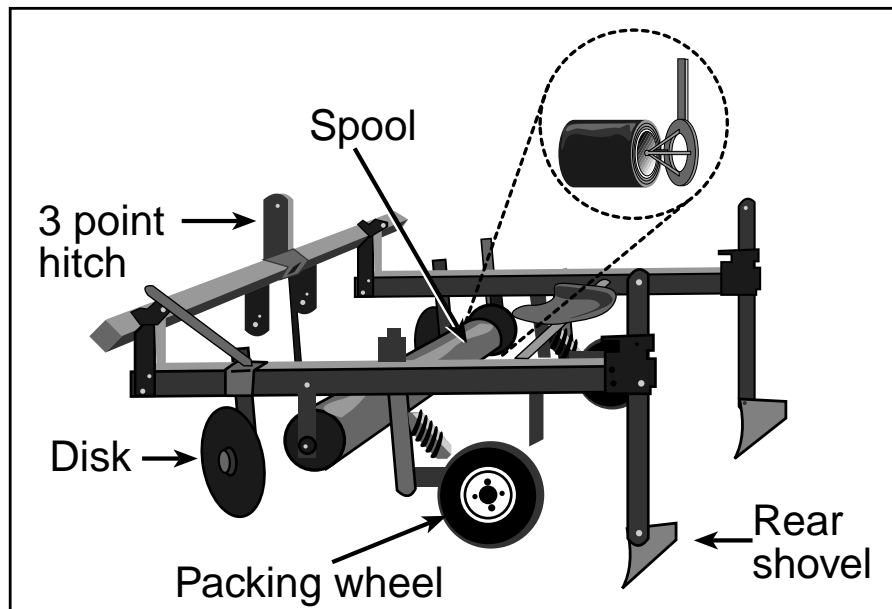


Figure 1.

## Maintenance

Some weeds and grasses will emerge adjacent to trees. It is important to walk the tree rows two to three times during the growing season to pull weeds and grasses growing adjacent to trees. Keep the edges and ends of weed barrier fabric covered with soil.

If weeds grow tall enough to compete for light, and fall over fabric and trees, mowing between tree rows or at least along fabric edges may be required. In most other cases, leaving vegetation between rows reduces damage from desiccating wind and provides excellent wildlife habitat. Mowing should always occur in the fall to remove winter habitat for damaging rodents. Planting sorghum or native grass between rows will suppress weed growth.



*Figure 2. Five staples are used to hold fabric squares down.*

## Cost and Availability

Weed barrier may be obtained from a variety of sources including county conservation districts, Kansas Department of Wildlife and Parks, Kansas State and Extension Forestry, private wildlife organizations or directly from the manufacturers. Though cost may seem high, it is important to remember that fabric provides 5 to 7 years of weed and grass control and less labor than other methods of vegetative control such as chemical, cultivation, or organic mulch. Survival and growth are almost always greater when weed barrier fabric is used. Some cost-share programs may assist with the purchase and application of fabric.

### ***Recommended Publications:***

*Tree Planting Guide, L-596*

*Conservation Tree Planting Schedule, L-871*

---

**Robert L. Atchison**  
District Forester, Northeast

**Leah B. Ricke**  
District Conservationist  
Natural Resource Conservation Services



**Cooperative Extension Service, Manhattan, Kansas**

MF-2216

May 1996

Issued in furtherance of Cooperative Extension Work, acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, and United States Department of Agriculture Cooperating, Richard D. Wootton, Associate Director. All educational programs and materials available without discrimination on the basis of race, color, national origin, sex, age, or disability.

File Code: Forestry 7

MS-5-96—5M