



Synthetic Mulch Benefits: The use of synthetic mulch (fabric) over the past decade has greatly increased survival and vigor of conservation plantings by providing timely weed control which contributes to more efficient utilization of moisture. For maximum benefits fabric must be inspected and managed on a regular basis. Management guidelines are listed below.

Comparison of Synthetic Mulch Types

Black Woven Polypropylene	Black Plastic Sheet Film
Prevents weed germination from under fabric	Prevents weed germination from under fabric
Ultraviolet light resistant (long lasting)	Ultraviolet light resistant (long lasting)
Restricts rate of shrub suckering	Restricts rate of shrub suckering
Resistant to animal hooves and hail damage	Easily damaged by animal hooves and hail
May abrade or girdle tree trunks	Stretches as tree trunks enlarge
Water and air pass through fabric	Water and air cannot pass through fabric
Weed roots can grow down through fabric	Weed roots cannot grow down through fabric
More expensive than plastic	Less expensive than polypropylene

To Maintain This Practice

First Year Management of Fabric

- Inspect fabric monthly, and after hard rains or high winds checking for loose or billowing fabric.
- Cover loose edges with soil and compact firmly.
- Add rocks or staples in the middle to reduce billowing. Do not add soil to the middle of the fabric.
- Use caution when anchoring plastic film to avoid punctures. (Smooth rocks preferred to staples.)
- Remove grass clippings, other organic matter, or soil that has accumulated on the fabric.

Management of Fabric After First Year – Annually inspect and correct the following as needed.

- *Fabric edges are loose.* - Anchor with soil, rocks or staples.
- *Tree or shrub stems are abraded by the fabric.* - Enlarge opening as illustrated in Figure 1. This problem will usually be apparent the first year.
- *Tree or shrub is being girdled, usually evident after year 5.* Enlarge opening. See Figure 1.
- *Weeds are growing through fabric openings.* Hand pull or hand-apply glyphosate herbicide. Herbicide should not contact any green tissue, tender bark or buds on trees and shrubs.

- *Weeds are growing through or across the fabric.* Control with appropriate tillage, chemical, hand pulling or mowing.
- *Soil has accumulated on the fabric.* Remove soil immediately with rakes, hoes, or leaf blowers as it can provide a growth medium for weeds to become established. Change management practices between the fabric strips to prevent soil from accumulating on the fabric.
- *Organic matter has accumulated on fabric.* Remove organic matter immediately with rakes or leaf blowers as it provides a growth medium for weeds to become established. Change management practices between the fabric strips to prevent accumulation of organic matter on fabric.
- *Weeds are growing where center strips of specialized fabric have degraded (only on certain types of fabric).* Hand pull or use appropriate herbicides to control weeds. This will usually be needed 2-3 times a year until canopies shade the area.
- *Suckering shrubs are not spreading beyond the parent plant.* Enlarge the opening parallel to the fabric length to encourage basal sprouts and root suckers to emerge. Leave a small piece (4") of connective fabric between plants to prevent fabric blow out or remove fabric entirely after year 5.

Between Row Management of Fabric

Management between rows of synthetic mulch varies by site, purpose of the planting, owner objectives and age of the planting.

- *Tillage* – Tillage shall be shallow and frequent. Avoid hooking or damaging fabric with tillage implements. Repair damaged fabric immediately. Tillage may increase or decrease the spread of suckering plants outside the fabric edges. Refer to the fact sheet "Tillage for Weed Control in Windbreaks and Shelterbelts" for details.
- *Herbicides* – Use low drift nozzles, hooded sprayers, or low pressure technology to minimize risks of herbicide damage. Most broadleaf and contact herbicides will damage or kill sprouts from suckers outside the fabric edge. If suckers are desired avoid herbicide contact. Some herbicides could be translocated and stress or kill the parent plant. Refer to the fact sheet "Herbicide Weed Control in Windbreaks and Shelterbelts" for more details.
- *Grass seeding* – A non-aggressive grass can reduce the risk of damaging the fabric with tillage and reduce the chance of erosion uncovering fabric or the deposition of sediment on the fabric. Do not allow grass clippings to accumulate on the fabric. If a dense thicket of shrubs is desired, avoid mowing suckers and sprouts outside the fabric. Refer to the fact sheet "Grass Seeding within Windbreaks and Shelterbelts."

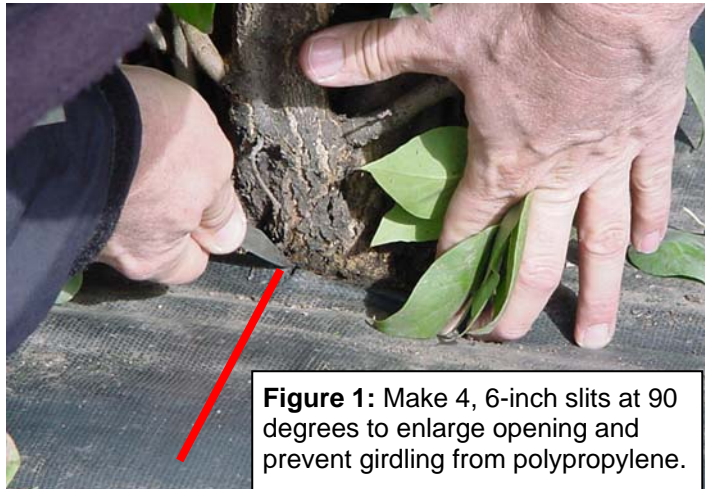


Figure 1: Make 4, 6-inch slits at 90 degrees to enlarge opening and prevent girdling from polypropylene.

Where to get help

For more information, contact the local office of the USDA Natural Resources Conservation Service or your local Soil Conservation District. Use the following link to find additional references for addressing tree care and management.

http://efotg.nrcs.usda.gov/references/public/ND/List_of_Additional_Windbreaks_&_Woodland_References.pdf

References

Kort, John , personal communication, Prairie Farm Rehabilitation Administration, Indian Head, Saskatchewan, Canada
 Logar, R; Sciana, J; 2004; Tillage for Weed Control in Windbreaks and Shelterbelts. Montana Technical Note-Forestry-MT-24.