

## **Best Management Practice for Geotextiles and Geomembranes (“YELLOW” LAND USE)**

DRAFT: 01/09/2020

### **Purpose:**

To provide guidance on the installation, use, and removal of geotextile fabrics and geomembranes on the preserved premises.

### **Definitions:**

“Geotextile Fabrics” means permeable, woven and non-woven fabrics, typically used for separation of soil layers, erosion control and weed management.

“Geomembrane” means an impermeable plastic film used for a variety of agricultural uses including but not limited to plastic mulch, silage wraps, pond liners, and manure storage facilities. Plastics used to cover hoop houses are detailed in the Temporary Structures BMP.

“Normal Tillage” means generally accepted agricultural practices for seedbed preparation and cultivation of soil including moldboard plowing, disking, chisel plowing, and the use of similar site preparation practices as determined by the Committee. Normal tillage is limited to the depth of the surface layer, designated as the plow layer, which is the Ap soil horizon.

“Permeable” means a material or surface treatment that allows the passage of water into the soil at a rate equal to or greater than the surrounding surface soils, or that allows the passage of water into the soil at a rate equal to or greater than the saturated hydraulic conductivity for the soil type identified in the web soil survey.

“Plastic Mulch” means a disposable thin layer (typically 3 mm or less) of impermeable plastic stretched over prepared soil beds used in the propagation of field crops to improve growing conditions.

“Pond Liner” means an impermeable geomembrane used in the construction of irrigation ponds, tailwater recovery systems, and manure storage facilities.

“Silage Wraps” means an impermeable disposable plastic used in the storage of silage either in rolls or in bunkers.

“Soil Compaction” means any activity other than normal tillage that results in an increase in soil bulk density or consolidation or reduces a soil’s capacity to infiltrate water including, but not limited to, preparing or using land for the placement of engineered structures, footings, foundations, earth-retaining structures, parking areas, or roadways through static force, tamping, vibration, kneading, and rolling techniques unless specifically identified by the Committee as an exempt agricultural practice.

“Soil Loss Tolerance Rate (T)” means the maximum rate of annual soil loss that will permit crop productivity to be sustained economically and indefinitely on a given soil (source: American Society of Agronomy, Soil Science Society of America, Special Publication Number 45).

“Weed Fabric” means a vernacular term for geotextile.

**Where Practice Applies:** To any geotextile fabric or geomembrane used on a Preserved Farm. Common applications include but are not limited to plastic mulch, weed barriers, pond liners, silage covers.

**Design Standards to Qualify for BMP Certification:**

The use of geotextiles and geomembranes shall be in accordance with a farm conservation plan approved by the local soil conservation district and otherwise be compliant with the deed of easement and applicable local and state regulations.

1. Permeable geotextiles (e.g. weed fabric for nursery production)
  - a. Must be readily permeable to water.
  - b. May be placed over native soil with topsoil in place or, if necessary for agricultural purposes, the topsoil may be stockpiled on site according to the Soil Stockpiling BMP.
  - c. Soil compaction outside of normal tillage practices is not permissible before, during, or after installation.
  - d. Any erosion beneath or adjacent to the fabric shall be addressed promptly.
  - e. Use of gravels or other materials below geotextiles are subject to the Improved Parking BMP.
  - f. All grading shall be contained completely within the plow layer.
  - g. Lanes between production areas shall follow the BMPs for Improved Travel Lanes or Unimproved Travel Lanes.
2. Impermeable temporary geomembrane (e.g. plastic mulch for vegetable production, silage wraps and covers, or tarps)
  - a. Shall be fully removed at the end of its useful life.
  - b. Shall be installed in an orientation that minimizes erosive flow.
  - c. Soil erosion from the entire field shall be maintained below the tolerable soil loss tolerance, "T".
  - d. If soil erosion is above tolerable levels, conservation measures must be implemented to reduce the soil loss to "T" such as vegetative treatment areas, reduction in row length, increase in vegetative cover between rows, or other conservation practices recommended as part of an NRCS conservation plan.
3. Impermeable long-term use geomembrane (e.g. pond liners)
  - a. Shall be designed, installed, and maintained according to New Jersey Conservation Practice Standards promulgated in the Field Office Technical Guide by the Natural Resources Conservation Service.
  - b. Construction of irrigation ponds, tailwater recovery systems, and manure storage lagoons shall reference the Agricultural Water Impoundment BMP.

**Maintenance:**

Erosion beneath the fabric must be minimized and addressed. At the end of its useful life, all geotextile or geomembrane must be removed from the soil and properly disposed of.

**Restoration:**

If restoration of the area is desired, the restoration standards set forth in the Soil Protection Rules shall be followed.