

Chesapeake Bay Program Quick Reference Guide for BMPs

A-23. Tree Planting (Agricultural)

General Information

Forests provide a host of environmental benefits. They reduce the quantity and velocity of surface runoff, improve local water quality and offer wildlife habitat, to name just a few. To protect these benefits, it is important to conserve and maintain existing forested areas, but there are also opportunities to expand forest coverage through tree planting in agricultural areas. This reference sheet pertains to tree planting in agricultural settings (for Forest Buffers see A-12 and A-13; for tree planting practices in developed areas see D-7).



Figure A-23-1. Tree planting on agricultural lands provides numerous environmental benefits, including improved water quality, especially when the trees create forested areas. Photo: USDA NRCS

CBP Definition(s)

Tree planting includes any trees planted on agricultural land, except those used to establish riparian forest buffers, targeting lands that are highly erodible or identified as critical resource areas.

Specifications or Key Qualifying Conditions

This BMP does not apply to trees planted as riparian buffers or for trees planted in developed settings, which are separate BMPs.

Nitrogen, Phosphorus and Sediment Reductions

Nitrogen, phosphorus and sediment reductions are determined based on the prior land use that is converted to forest. Actual simulated reductions will vary based on your specific area and can be calculated in CAST, but an average per-acre reduction is provided in Table A-23-1 for reference.

Table A-23-1. Average nitrogen, phosphorus and sediment reductions per acre of agricultural tree planting. Actual reductions will vary and can be calculated in CAST. All values in the table are pounds removed at the edge-of-tide. Source: BMP Pounds Reduced and Costs by State (April 30, 2018 version) available online at <http://cast.chesapeakebay.net/Documentation/DevelopPlans>

State	Nitrogen Average reduction (lbs/ac, Edge of Tide)	Phosphorus Average reduction (lbs/ac, Edge of Tide)	Sediment Average reduction (lbs/ac, Edge of Tide)
Delaware	52.6	0.3	241
Maryland	21.2	0.7	703
New York	5.8	0.2	229
Pennsylvania	18.1	0.4	505
Virginia	11.5	0.5	309
West Virginia	6.7	0.2	165

Specific Reporting and Modeling Information

Applicable Land Use Types (or other load sources) Treated by the BMP:

Agricultural tree planting can be reported on any of the load source groups below; the default is the combined group "AG."

- Ag Open Space
- Double Cropped Land

- Full season Soybeans
- Grain with Manure
- Grain without Manure
- Legume Hay
- Other Agronomic Crops
- Other Hay
- Silage with Manure
- Silage without Manure
- Small Grains and Grains
- Specialty Crop High
- Specialty Crop Low
- Pasture

Brief Description of BMP Simulation in the Model

The agricultural Tree Planting practice is a *Load Source Change BMP*. Each acre planted and reported under the BMP converts one acre from an AG load source into Forest.

Annual or Cumulative? Cumulative (10-year credit duration)

Can this practice be combined with other BMPs? No. An area converted to the Forest load source by this BMP is no longer eligible for application of other agricultural BMPs.

Key Elements for State BMP Reporting through NEIEN

- *BMP Name:* Tree Planting
- *Measurement unit:* Acres
- *Land Use:* Approved NEIEN agricultural land uses; if none are reported the default will be AG
- *Geographic location:* Approved NEIEN geographies: County; County (CBW only); Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4); State (CBW only)
- *Date of implementation:* Year trees were planted.



Figure A-23-2. Newly planted young trees benefit from cylindrical tubes –or “shelters” – and wooden stakes that protect them from harsh conditions and predation by deer as they establish their roots and grow. Photo: Chesapeake Bay Program

Table A-23-2. Synonymous BMP names for Watershed Model, NEIEN and other sources

CBP or Expert Panel term	NEIEN BMP name	Other common practice names
Tree planting (agriculture)	Tree planting	Reforestation; forest planting; tree planting; Windbreak/shelter establishment (NRCS 380); Tree/Shrub Establishment (NRCS 612); Tree Planting (FSA CP3); Hardwood Tree Planting (FSA CP3A)

Additional Information

A Guide for Forestry Practices in the Chesapeake Bay TMDL Phase III Watershed Implementation Plans. Prepared by the Forestry Workgroup. <https://www.chesapeakebay.net/what/publications/25951>

Version and History Statement

This info sheet was first published on August 10, 2108 and reflects the BMP definition and benefits that have remained in use since review and approval by the CBP partnership’s source sector workgroups for tributary strategy development.

All BMP effectiveness estimates are subject to potential future reviews according to the availability of new scientific information and CBP partnership needs, as defined in the [BMP Review Protocol](#).