

Appendix A: Technical Appendix - Requirements for Entering the Agroforestry Practices Silvopasture and Alley Cropping into Annual Progress Reporting to CAST

Background: In June 2013 the Water Quality Goal Implementation Team (WQGIT) agreed that each BMP expert panel or expert panel establishment group (EPEG) would work with CBPO staff and the Watershed Technical Workgroup (WTWG) to develop and approve a technical appendix for each EPEG or expert panel report.

The purpose of this technical appendix is to describe the Agroforestry EPEG's recommendation to credit **silvopasture and alley cropping practices** as defined by the standards and criteria described in the Agroforestry EPEG Report. The information below explains how these agroforestry practices will be integrated into Annual Progress reporting to CAST.

Q1. What are the definitions of the alley cropping and silvopasture practices?

A1. Practice definitions are as follows:

Alley cropping (AC) Trees or shrubs planted in sets of single or multiple rows integrated with agronomic, horticultural crops or forages produced in the alleys between the sets of woody plants that produce additional products.

Key Additional Criteria for BMP: Planting rates must result in a minimum of 25% canopy coverage per acre when mature. Applicable on all cropland and hay land where trees, shrubs, crops, and forages can be grown in combination.

Silvopasture (SP): Establishment and management of desired trees and forages on pasture.

Key Additional Criteria for BMP: Animals integrated into this system must be managed according to standards for the Precision Intensive Rotational/Prescribed Grazing BMP. Planting rates for trees/shrubs must result in a minimum of 25% canopy coverage per acre when mature. For guidance on planting rates and density, site selection, species selection, establishment, maintenance, and system management, refer to existing NRCS/state practice recommendations.

Q2. How much nitrogen, phosphorus and sediment reduction credit will be associated with the Silvopasture and Alley Cropping practices in the next CAST release?

A2. Efficiency Reductions for Alley Cropping and Silvopasture BMPs in the Chesapeake Assessment Scenario Tool (CAST- Phase 6.0 C-23):

BMP	Nitrogen	Phosphorus	Sediment
Silvopasture	21.749%	23.357%	3.287%
Alley Cropping	23.733%	23.163%	24.264%

These BMPs will be eligible to begin being reported with the 2025 Progress review and will be credited when a new version of CAST is released, expected with Phase 7. In the meantime, the practices will be available for planning purposes.

Q3. What types of projects are eligible to receive credit in the Chesapeake Assessment Scenario Tool?

A3. Alley cropping and silvopasture projects that are designed and managed according to the approved CBP BMP definitions (see above) for each and implemented on approved land-use load sources are eligible for credit.

Traditionally, these management practices have been designed and implemented according to existing state modified or federal NRCS CPS definitions, criteria and specifications. Crediting these existing practices for Chesapeake Bay Program purposes would not extend to projects/practices implemented according to these federal or state NRCS CPS that do not also meet the CBP BMP definitions and criteria approved by the Agroforestry EPEG for silvopasture and alley cropping BMPs.

Q4. What do jurisdictions need to submit for annual progress in order to qualify for reductions?

A4. Below is a complete list of the parameters that should be submitted to the Chesapeake Bay Program for annual progress for each silvopasture or alley cropping project.

- **BMP Name:** Silvopasture or Alley Cropping
- **Measurement Name/Unit:** acres
- **Original Land Use:**
 - Alley Cropping: Crop and Hay load sources
 - Silvopasture: Pasture load sources
- **Location:** Approved Chesapeake Bay Program reporting geographies: Latitude/Longitude (preferred); County; County (CBWS Only); Hydrologic Unit Code (HUC12, HUC10, HUC8, HUC6, HUC4), State (CBWS Only)
- **Date of Implementation:** date the project was completed
- **Type of BMP:** Visual, Cumulative practices (10-year credit duration)
- Practices can be combined with other BMPs
- **Acres of the Silvopasture BMP** must be reported in conjunction with equivalent number of acres of the Precision Intensive Rotational/Prescribed Grazing BMP in order to receive credit

Synonymous BMP names for Watershed Model, NEIEN and other sources.	NEIEN BMP name	Other common practice names
Silvopasture BMP	Silvopasture	NA
Alley Cropping BMP	Alley Cropping	NA

Q5. Is this BMP an annual or cumulative practice?

A5. Both silvopasture and alley cropping BMPs are cumulative practices. Jurisdictions should report all measurement names only at the time of installation. Each practice will continue to receive credit in the model in future years, based on a 10-year credit duration.

Q6. Can the credit duration for silvopasture and alley cropping practices get further extended if practices are verified?

A6. No, the credit duration for these practices can't extend beyond the initial 10-year credit duration to avoid being double-counted when trees are large enough to be detected in the aerial imagery. The Precision Intensive Rotational/Prescribed Grazing BMP can still have the credit duration extended through verification.

Q7. How will the existing silvopasture and alley cropping practices be accommodated?

A7. To date, no jurisdiction has submitted silvopasture or alley cropping practices in a progress or planning scenario. It is up to each state to determine how to properly verify, track and report these BMPs.

Q8. Where do projects need to be located to receive credit for these BMPs?

A8. Jurisdictions can submit silvopasture projects on the pasture land use and alley cropping projects on the cropland/hay land uses.

Q9. Can jurisdictions submit historic silvopasture and alley cropping practices for credit?

A9. Yes. Jurisdictions may update their historical record of all approved BMPs in the current model at any time. For silvopasture, that means that the historical silvopasture practice must be verified to have been established through tree addition to pasture, have the minimum percent mature canopy coverage or density (number of trees/shrubs/acre) and to include the Precision Intensive Rotational/Prescribed Grazing BMP. For alley cropping, the minimum percent mature canopy coverage or density (number of trees/shrubs/acre) must be verified.