

Plant Enhancement Activity - PLT14 – Alley cropping establishment of wildlife and beneficial insect habitat



Enhancement Description

This enhancement involves the use of trees and/or shrubs planted in multiple-rows with agronomic, horticultural crops or forages produced in the alleys between the sets of woody plants that produce additional products and provide wildlife and insect benefits.

Land Use Applicability

Cropland and Forestland

Benefits

Integrating trees and agronomic or horticultural crops creates a land management system that produces marketable products while maintaining long-term soil productivity. Economic risk is reduced, because the alley cropping system produces multiple products, many of which have an established market. When a landowner is also interested in providing habitat for wildlife and beneficial insects, alley cropping designs and management can be modified to create structure and plant diversity which is attractive to many wildlife species including quail, nongame birds, other terrestrial wildlife, and beneficial insects. See Alley Cropping (311) conservation practice standard for further guidance.

Criteria for Alley Cropping Establishment for wildlife and beneficial insect habitat

- Identify wildlife species to be benefited by the alley cropping.
- Account for the habitat condition of the field, farm, and adjoining fields to determine habitat needs for the targeted wildlife.
- Plant tree and shrub species in multiple-row (minimum of two-rows/set) sets.
- The distance between the sets of trees or shrubs will be determined by the following:
 - Tree or shrub management objectives;
 - Light requirements and growth period of the crops or forages in the alleys;
 - Erosion control needs;
 - Machinery widths and turning areas.
 - Maximum distance between rows (to be determined by states for this enhancement)
- Use one or more of the following methods to improve habitat for the targeted species.
 - Manage cropping periods or add legumes or plant cover crops to enhance wildlife habitat during critical life cycle periods.



- Use native tree and shrub species that favor targeted species.
- Plant multiple tree and shrub species (3 or more; use native species whenever possible) with varying flowering times to favor beneficial insect species.
- Establish clusters of other tree and shrub species if needed as a food or pollinator source (e.g., oaks for mast or black locust for pollen).

Documentation Requirements for Alley Cropping Establishment for wildlife and beneficial insect habitat

- List of targeted wildlife species/insects.
- Brief written description of the activities (criteria) completed with dates of application and receipts for planting stock, herbicides, etc.
- Acreage of the enhancement activity.
- Delineations on a map or aerial photo of alley cropping layout and placement.

References

- *Working Trees for Agriculture*. 2008. USDA National Agroforestry Center, Lincoln, NE.
- *Alley Cropping: An Agroforestry Practice*. January 1999. Agroforestry Notes – AF Note 12. USDA National Agroforestry Center, Lincoln, NE.
- *Alley Cropping Practices – Chapter 7*. 2009. In, *North American Agroforestry: An Integrated Science and Practice*. H.E. Garrett, Editor. American Society of Agronomy, Inc.

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Alley Cropping maximum distance between rows will be 66 feet (alley width) for straight rows and 50% "L" (slope length) for Alley Cropping on the contour. These distances can be exceeded with prior approval based on crops to be grown. Trees and shrubs planted for biomass and nut production as the secondary purpose will be planted in minimum two row sets. Trees and shrubs planted for forest products as a secondary purpose will be planted in minimum three row sets. Match the planted species to the wildlife being addressed and the habitat being connected.