

Info

Can alley cropping provide more farming options?

Working Trees

➡ *Alley cropping systems, which include rows of trees with crops within the alleys, can be transformed into other systems. Photo by Naresh Tevathasan.*

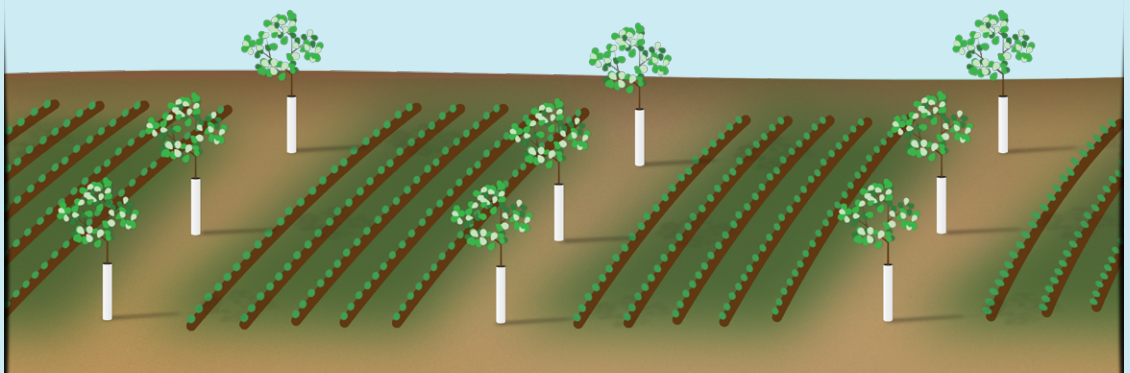


Alley cropping is an agroforestry practice involving the production of agricultural or horticultural crops in “alleys” between rows of trees or shrubs. The high level of interaction between trees and crops in these alleys creates a dynamic and versatile agroforestry system.

Producers practice alley cropping for a variety of reasons. Some find it an effective way to increase whole-farm yield in the long term. For others, alley cropping is used to transition from one farming system to another. Such transitions are facilitated by the increased shade and changes

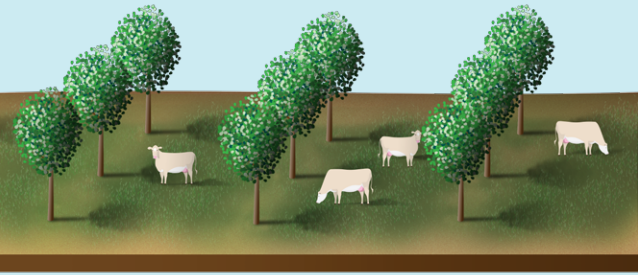
in microclimate that occur as trees and shrubs grow. In addition, the annual crops grown in alleys can provide short-term annual income until the trees are mature. The versatile nature of this practice allows a producer to react to markets, labor limitations and changing goals.

Left alone, the trees and shrubs in an alley cropping system become taller and wider. As shade and density increase, the producer will need to make significant management choices, including potentially changing crops.



Young alley cropping systems allow landowners to plan ahead for their future, creating conditions that will allow them to continue to alley crop or transition to a different system.

Four Transitional Options

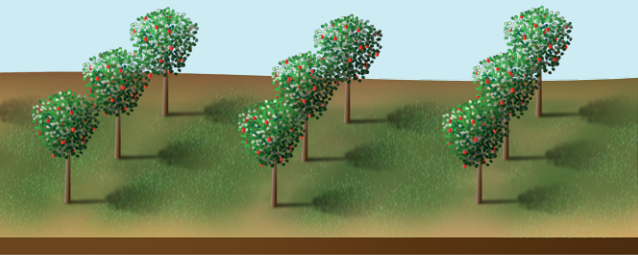
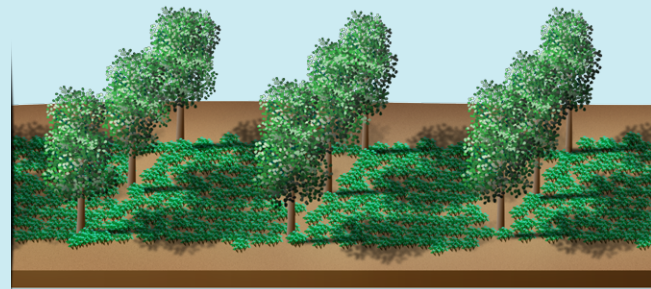


Silvopasture

As trees grow and shade increases, the producer may transition to a silvopasture management scheme. Most often this transition will require planting a cool season forage mix of grasses and legumes in the alleys. As with all silvopasture systems, the producer will need to monitor forage condition and tree growth to determine when to prune or thin the trees for optimal forage production.

Forest Farming

A producer may transition from an alley cropping system to a woodland by allowing the trees to dominate the site. As the trees completely shade the site the conditions will become more and more favorable for establishing non-timber forest products (NTFPs), including edible crops such as mushrooms or native medicinal crops such as goldenseal, black cohosh or ginseng.



Orchard

Some producers find that the trees or shrubs in the alley-cropped field are very productive and decide to specialize in the nut, fruit, or other tree crops. In such cases the producer may decide to stop cropping in the alleys and create an orchard of fruit or nut bearing trees or shrubs. The advantage of using alley cropping to establish an orchard is that the alley crop can produce income while the producer waits for the nut or fruit crop to become economically viable.

Continue to Alley Crop

The producer who chooses to continue alley cropping may decide to grow crops that provide the greatest economic gain and manage for conditions favoring those crops. In such instances, the producer can reduce shade by removing trees within the tree rows, particularly those that are not growing or producing well. Another option is to remove every other row of trees or shrubs, resulting in a more dramatic effect on field microclimate. A producer can also prune the trees, allowing sunlight to penetrate further into alleys.

For more information on alley cropping, visit:
nac.unl.edu/practices/alleycropping



Contact: USDA National Agroforestry Center, 402.437.5178 ext. 4011, 1945 N. 38th St., Lincoln, Nebraska 68583-0822. <https://nac.unl.edu>

The USDA National Agroforestry Center (NAC) is a partnership of the Forest Service (Research & Development and State & Private Forestry) and the Natural Resources Conservation Service. NAC's purpose is to accelerate the development and application of agroforestry technologies to attain more economically, environmentally, and socially sustainable land use systems by working with a national network of partners and cooperators to conduct research develop technologies and tools, establish demonstrations, and provide useful information to natural resource professionals.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs.)

Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call toll free 866-632-9992 (voice). TDD users can contact USDA through local relay or the Federal relay at 800-877-8339 (TDD) or 866-377-8642 (relay voice). USDA is an equal opportunity provider and employer.

First Edition March 2017