

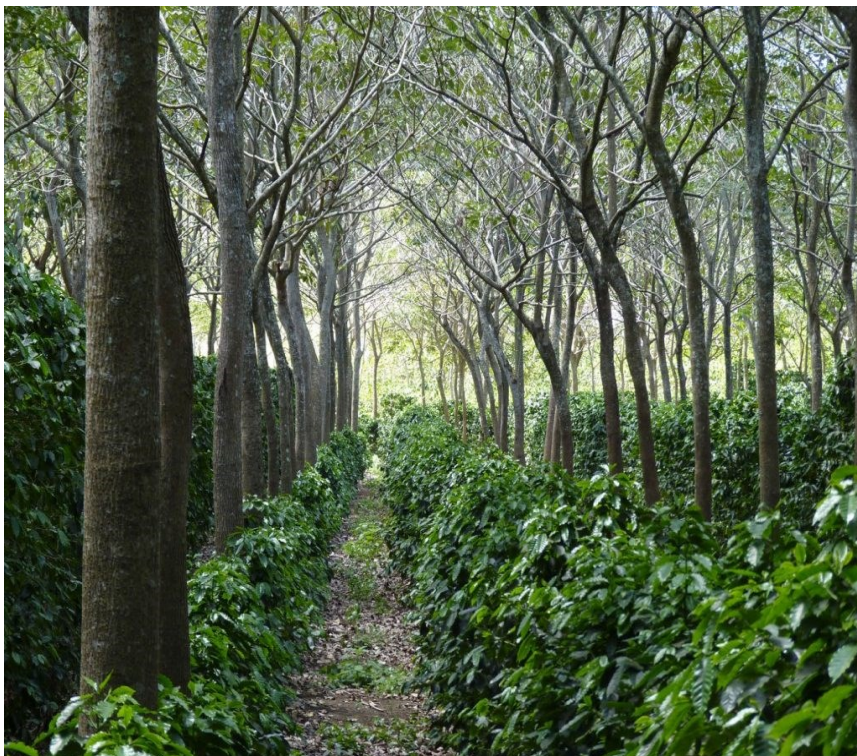


Tribal Pesticide Program Council

Fall 2021

Agroforestry: An Ancient Practice to Reduce Pesticide Use and Enhance Pollinator Habitat

Although the term Agroforestry has only been in use for the past 50 years or so, much of the Traditional Ecological Knowledge used in Agroforestry practices has been around since ancient times. Agroforestry is the intentional practice of growing trees and/or shrubs alongside conventional crops for ecological balance in which each species benefits from each other. The focus is on the integration of plant species rather than individual plants and results in numerous environmental and economic benefits.



Over the past few centuries, farming and trees have been dissociated due to an increase in monocropping to produce large quantities of a single crop for an ever-growing population. This practice degrades the soil and encourages pests and disease to become more abundant, therefore increasing the use of pesticides to control them. Pesticides can pollute the soil and water and in turn cause harm to the organisms that rely on those resources. Through the practice of various forms of agroforestry, there is a reduction in the need for pesticides and an increase in habitat quality.

Five common agroforestry practices found in the United States are forest farming, alley cropping, riparian forest buffers, silvopasture and windbreaks.

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Forest Farming

This approach combines specialty crops that are intentionally grown under a forest overstory in order to attain an environmentally sustainable land-use system with economic benefits. Commonly these systems are established on private land and involve thinning the forest to create space and conditions to grow understory crops. Forest Farming, or Multi-Story Cropping, is a distinctive approach that combines management practices of conventional forestry with those of small-scale farming and horticulture. Forest farming can produce high quality trees grown for wood products along with shorter-term income from annual crops.

Alley cropping

Alley cropping is the practice of planting of rows of trees and/or shrubs interspersed to create alleys between agricultural crops. Occasionally this is referred to as intercropping, primarily in tropical areas. Growing multiple crops in close proximity to each other on the same acreage can create significant benefits to producers and help manage risk. And as trees and shrubs grow, they influence changes to light, water, and nutrients of the land producing many more benefits than typical monocropping.

Riparian forest buffers

A riparian buffer includes grass, trees and shrubs grown adjacent to aquatic resources to protect the lakes, wetlands and streams from the detrimental effects of agricultural production. Benefits of riparian forest buffers include the stabilization of eroding banks, protecting downstream crop lands from flooding, improved water quality and an increase in wildlife diversity.

Silvopasture

Silvopasture results from timber and pasture for livestock being managed as an integrated system. Various forms of Silvopasture have been practiced for centuries as the trees are valued for wood products in addition to providing shade and shelter for livestock. Along with the environmental benefits, this combination of trees and forage allows for a diversified income stream for land owners/managers.

Windbreaks

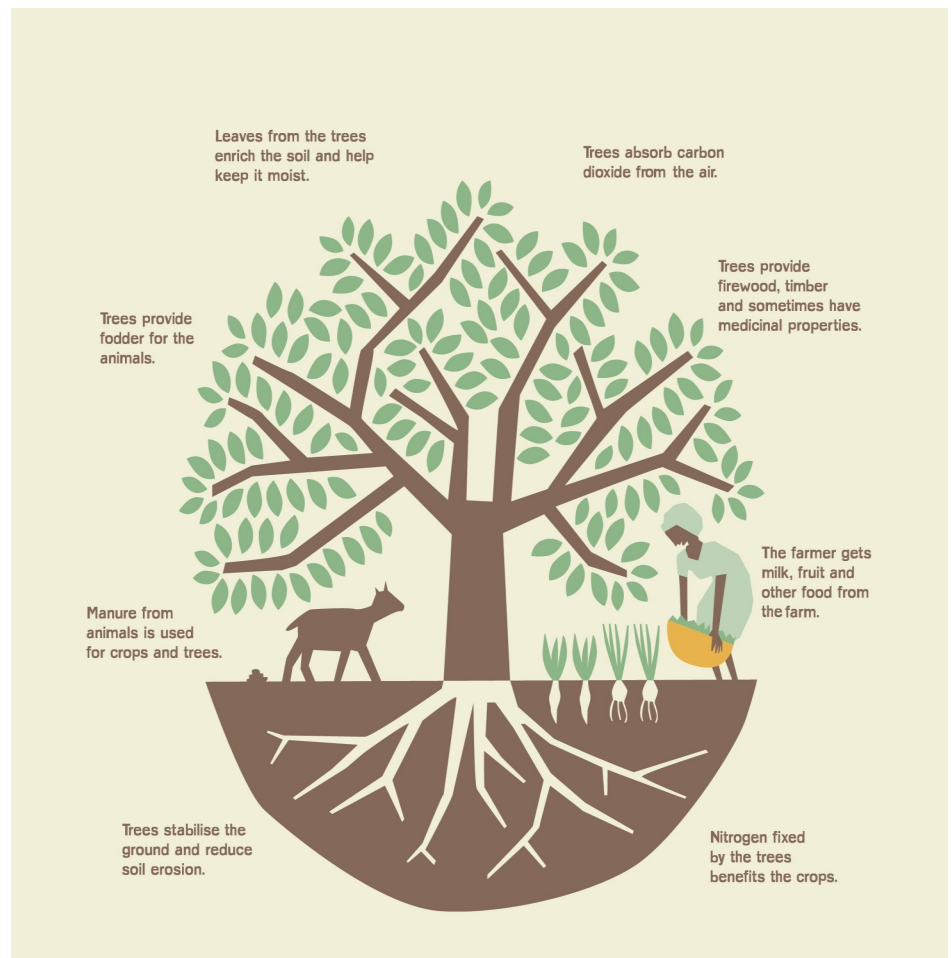
Barriers consisting of living trees and shrubs are used to reduce wind speed (also reduce noise and odors from livestock) and are the most common type of agroforestry used in the United States. By slowing the wind there is a reduction in soil erosion and an increase in crop yields. Windbreaks, along with hedgerows and riparian buffers, can prevent or reduce the transport or drift of pesticides from one field to another.



Benefits of Agroforestry

In addition to increasing biodiversity, various agroforestry practices can increase habitat for pollinators, improve soil quality, resist soil erosion, promote water conservation, increase carbon storage (trees) and reduce the need for pesticides.

Agroforestry can be considered a component of Integrated Pest Management (IPM). When trees and shrubs are interspersed with crops, natural pest control is more abundant because the presence of trees simulates natural woodlands which encourages insect and bird diversity. Pests become better controlled by natural predators. These practices that provide habitat for pest-controlling insects and birds thus reduce the need for (and cost) of pesticide applications. Reduced pesticide use is, in turn, beneficial for pollinators as well as people.



Roots in Traditional Knowledge

Indigenous American farmers have long practiced and understood the benefits of growing trees, shrubs, herbs and vegetables together as this creates a system where each species benefits the others. Recognition of these deep roots is vital to understanding and implementing successful farming practices on Tribal and non-Tribal lands. Learning traditional ecological knowledge from elders and practitioners may enable landowners and managers to develop more robust and complex agroforestry systems that not only produce multiple products from the same piece of land but emphasize the use of native plants suited to the local landscape and climate.

An integrated approach to agriculture incorporating trees and shrubs with crop production has enormous benefits for both the environment and the grower from improved soil quality, water conservation, boosting pollinator numbers and a reduced need for pesticides.

To Learn more about agroforestry:

<https://www.fs.usda.gov/nac/>

<https://en.reset.org/knowledge/agroforestry-and-its-benefits>

<https://policy.friendsoftheearth.uk/insight/planting-more-trees-can-help-cut-pesticide-use>

Updates and Announcements

Conferences

TPSA Annual Conference

The Pesticide Stewardship Alliance (TPSA) will hold its 2022 conference on **February 2 & 3, 2022**. Presentations and discussions include pesticide disposal program liabilities, PFAS, considerations for treated seed disposal, pollinator protection management, EPA updates. <https://tpsalliance.org>

Trainings & Courses

Pesticide Applicators in Indian Country Virtual Training

The EPA is offering a virtual pesticide applicator training **November 17-18, 2021**. For more information visit <https://www.epa.gov/pesticides/epa-offers-virtual-training-pesticide-applicators-indian-country>

Tribal PIRT

The Muscogee Nation will host a Tribal Pesticide Inspector Residential Training (PIRT), tentatively scheduled for **May 17-19, 2022**, at the River Spirit Resort & Casino in Tulsa, OK. For more information visit <https://www.epa.gov/compliance/pesticide-inspector-residential-training-pirt>

Basic Inspector PIRT

The Georgia Department of Agriculture will host a Basic Inspector PIRT **Summer of 2022** in Savannah, GA. For more information visit <https://www.epa.gov/compliance/pesticide-inspector-residential-training-pirt>



Meetings

TPPC Fall Meeting

The second Tribal Pesticide Program Council biannual meeting of 2021 will be held **November 2-4**. Typically an in-person event, the meeting will be held virtually again this time due to pandemic concerns. For more information visit tppcwebsite.org

Tribal Consultation Opportunities

OECA FIFRA STAG Grant Project Officers Guidance on Tribal Circuit Riders (**ends Nov. 11, 2021**)

The U.S. EPA Office of Enforcement and Compliance Assurance (OECA) is initiating consultation and coordination with Tribes who have circuit rider cooperative agreements with the EPA to conduct FIFRA inspections as well as the tribes served by each circuit rider. Please contact Helene Ambrosino, Ambrosino.Helene@epa.gov or (202) 564-2627 with any questions or comments.

National Allocation of Indian Environmental GAP Funding (**ends Nov. 17, 2021**)

The EPA is initiating consultation and coordination with federally recognized Tribes to receive input on how to improve the national allocation of Indian Environmental General Assistance Program (GAP) funds to tribal and intertribal consortia recipients. Please contact Lisa Berrios, berrios.lisa@epa.gov or (202) 564-1739 should you have any questions.

2022-2026 US EPA Strategic Plan (**ends Nov. 12, 2021**)

EPA is initiating consultation and coordination with federally recognized Indian Tribes on the draft FY 2022-2026 EPA Strategic Plan which covers important issues that impact Tribes. Please contact Joey Bailey, bailey.josephe@epa.gov (202) 564-0521 or Judy Lieberman, lieberman.judy@epa.gov (202) 564-8638.

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The TPPC is a member-based organization with more than 55 members and 38 Tribes and tribal organizations as of October 2021, whose activities are funded by a cooperative agreement with the EPA. The Council serves as a tribal technical resource, and provides a forum for dialogue between Tribes and the EPA on program and policy development relating to pesticides issues and concerns. Assistance provided to Tribes includes support in building tribal pesticide programs and conducting pesticide education and training, and the preparation of resources for Tribes interested in specialized issues such as Integrated Pest Management and pollinators. Through its interaction with the EPA, the TPPC keeps Tribes informed of developments in the regulation of pesticides and pesticide use, and provides feedback to the EPA on such matters from a tribal perspective (though it is important to note that communication between the EPA and the TPPC does not substitute for direct government-to-government consultation).

For information about how to join the TPPC, contact Mark Daniels at mark.daniels@nau.edu or (928) 523-8897.

