SHADE-GROWN COFFEE



QUICK GUIDE TO BEST PRACTICES

Recommendations for sustaining ecological management in coffee production in the context of public agroforestry programs in Mexico.

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DIVERSIFIED COFFEE PLANTATIONS

Coffee plantations that incorporate a variety of shade species provide greater benefits to both the plot and coffee cultivation. Some forest species offer multiple uses, including shade, food, timber, medicine, natural fertilizer, and living fences. Additionally, they help to improve microclimatic conditions and promote the presence of local fauna.

The main tree species recommended for the mid-elevation zone of the Sierra de Zongolica (1,200 to 1,800 meters above sea level) are:

- Jinicuil (Inga jinicuil).
- Chalauite (Inga vera).
- Vainillo (Inga paterno).
- Nogal (Juglans pyriformis).
- Fresno (Fraxinus uhdei).
- Liquidámbar (Liquidambar styraciflua).
- Elocóchitl (Magnolia vovidesii).
- Pipinque (Ostrya virginiana).
- Chinene (Persea schiedeana).
- Haya (Platanus sp).
- Encino (Quercus insignis).
- Olmo (Ulmus mexicana).

SPECIES AND SUGGESTED PRACTICES IN: MANSON, R. H. *ET AL.* 2018. BIODIVERSIDAD Y OTROS SERVICIOS AMBIENTALES EN CAFETALES MANUAL DE MEJORES PRÁCTICAS. COMISIÓN NACIONAL PARA EL CONOCIMIENTO Y USO DE LA BIODIVERSIDAD. CIUDAD DE MÉXICO. 88 PP.

PRUNING, NOT CLEARING

shade management, it In is recommended to prune trees rather than them down entirely. Pruned cut support the growth branches of epiphytes and provide shelter for wildlife. The selection of forest species should prioritize ecological criteria over economic or utilitarian purely considerations.

NURSERIES AND RENOVATION OF COFFEE PLANTATIONS

The nursery production of both shade species and coffee plants offers a lowcost, community-based solution. Propagation can be tailored to the specific needs of the plot, such as selecting plants with higher yields, better growth habits, lower disease incidence, or greater disease resistance. Nurseries are also essential for coffee plantation renewal, which typically occurs after 12 to 20 years of production.

COFFEE VARIETIES

Cultivating a diversity of coffee varieties reduces the risk of losses caused by pest infestations. The most recommended varieties for the Sierra de Zongolica are *Costa Rica, Colombia, Caturra, Bourbon, Typica, Oro Azteca, Geisha, and Caturra.*

BIO-INPUTS

The minimal use of insecticides, pesticides, and fungicides promotes the presence of natural predator species that control harmful insects in coffee plantations. The production of bioinputs, such as glass water and sulfocalcic broth, offers a sustainable alternative to agrochemicals.

LEAF LITTER

The leaf litter produced by shade trees protects the soil from erosion, enriches it with nutrients for coffee plants, and creates a habitat for microorganisms that serve as a food source for other animals. Additionally, the combination of leaf litter and shade helps suppress the growth of unwanted weeds.

BENEFITS OF SHADE

Shade-grown coffee experiences less sun stress, which enhances its quality. Coffee plants tend to grow taller and more vigorous, while retaining their leaves for longer periods. Native tree species contribute to pest control by creating a balanced ecosystem. The diversity of tree species also facilitates the presence of various forest organisms, including insects, birds, mammals, amphibians, reptiles, fungi, orchids, ferns, and others.