

A professional development workshop in agroforestry

Trees for improving profitability, sustainability, and resource conservation on farms and ranches

Tuesday, May 16–Friday, May 19, 2006
Keauhou (Kahalu'u), Kona, Hawai'i



Hawai'i County Dept of
Research and Development



Big Island Resource
Conservation & Development





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Workshop sponsors

- United States Department of Agriculture Western Region Sustainable Agriculture Research and Education (USDA-WSARE) Program (principle sponsor)
- Hawai‘i County Department of Research and Development
- Big Island Resource Conservation & Development
- USDA Forest Service Forest Lands Enhancement Program
- State of Hawai‘i Department of Land & Natural Resources Division of Forestry & Wildlife

Project coordinator

Craig R. Elevitch, Permanent Agriculture Resources, Hōlualoa

Planning committee

J. B. Friday, Extension Specialist in Forestry, Department of Natural Resources and Environmental Management, CTAHR, University of Hawai‘i, Hilo

Bart Lawrence, Pacific Islands Forester, Pacific Islands Area, USDA-Natural Resources Conservation Service, Mongmong, Guam

Diane Ragone, Director, Breadfruit Institute, National Tropical Botanical Garden, Lāwā‘i

Michael Robotham, Tropical Technology Specialist, NRCS, Honolulu

Organizer

Permanent Agriculture Resources (PAR), PO Box 428, Hōlualoa, Hawai‘i 96725, USA; Tel: 808-324-4427; Fax: 808-324-4129; E-mail: par@agroforestry.net; Web: <http://www.agroforestry.net>. This institution is an equal opportunity provider.

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Big Island Resource
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Western
Region
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PAR

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Agenda

Tuesday, May 16

7:30–8:30	Registration, coffee
8:30–9:00	Opening ceremony, Kumu Keala Ching, Nā Wai Iwi Ola
9:00–9:20	Welcome—workshop overview, Craig Elevitch
9:20–10:00	Agroforestry—tree-based polycultures, Roger R. B. Leakey
10:00–10:30	Coffee break
10:30–11:00	Optimizing tree-crop interactions, J. B. Friday
11:00–11:30	Importance of mixed crop farming systems and agroforestry, Craig Elevitch
11:30–12:00	Integrating systems from ocean to mountain, Kauhane Morton
12:15	Leave hotel
12:30–1:30	Lunch, Nasturtium Cafe
2:00–3:30	'Ōhi'a Forest Farm (understory planting of commercial and noncommercial plants in the understory of a native 'ōhi'a lehua forest), Trisha and Denver Leaman
3:30–5:00	Mother Goose Farms (certified organic shade-grown coffee and other crops with geese and sheep weed control), Vicki and John Swift
about 6:00	back at hotel

Wednesday, May 17

7:30–8:00	Coffee
8:00–8:30	Summary and day plan, Craig Elevitch
8:30–9:00	Practical approaches to species selection, J.B. Friday
9:00–9:30	Conserving traditional varieties of economic plants, Diane Ragone
9:30–10:00	Domestication and commercialization of agroforestry trees for AFTPs, Roger R.B. Leakey
10:00–10:30	Coffee break
10:30–11:00	Value-added marketing, Ken Love
11:00–11:30	Direct marketing and value-added strategies for agroforestry, Debbie Ward
11:45	Leave hotel

12:00–1:00	Lunch, Kunitake Farm, Holualoa
1:00–1:15	Kunitake Farm, traditional Kona coffee farm, Larry and Maxine Kunitake
1:10–1:30	Faleofa farm, mixed cropping Tongan style, Kamilo Faleofa
1:30–2:00	Orchard alley cropping (a 1995 WSARE project) (uncertified organic, fast-growing contour hedgerows of nitrogen-fixing trees for crop mulch), Craig Elevitch
2:00–2:30	Forest Stewardship Project (mixed plantings of native and exotic trees), Mark Kimball
2:30–3:00	Blue Sky Farm (coffee, macnuts, avocado, and other crops), Christian Twigg-Smith
3:30–5:30	Holualoa Kona Coffee (certified organic, shade-grown coffee with on-farm processing and direct sales), Desmond Twigg-Smith
about 6:00	back at hotel

Thursday, May 18

7:30–8:00	Coffee
8:00–8:30	Summary and day plan, Craig Elevitch
8:30–9:00	Agroforestry-friendly NRCS standards, Mike Robotham
9:00–9:30	Windbreaks for agroforestry: Fresh ideas with multi-use species, Bob Joy
9:30–10:00	Soil quality considerations with agroforestry, Mike Robotham
10:00–10:30	Plant materials available from the NRCS Plant Materials Center at Ho'olehua, Moloka'i, Bob Joy
10:30–11:00	Coffee break
11:15	Leave hotel
12:15–1:15	Lunch, Waimea
1:15–2:15	Tour of windbreak trials and forage tree trials at the UH CTAHR Mealani Experiment Station, J. B. Friday
3:00–5:30	Ninole Orchards (diverse tropical fruit orchard and peach palm plantation with windbreaks), John Mood
about 7:00	back at hotel

Friday, May 19

7:30–8:00	Coffee
8:00–8:30	Summary and day plan, Craig Elevitch
8:30–9:00	Agroecology and sustainability, Roger R. B. Leakey
9:00–9:30	Poly- and mono-cultures, the good, bad and ugly, Scot Nelson
9:30–10:00	Biodiversity in traditional Pacific island agriculture, Diane Ragone
10:00–10:30	Coffee break
10:30–11:00	Introduction to vegetative propagation of trees, Roger R. B. Leakey
11:00–11:30	Guided tour of Pacific island agroforestry resources, Craig Elevitch
11:30–11:45	Concluding remarks and discussion
11:45–12:00	Closing

Presenter bios

Craig Elevitch directs Agroforestry Net, a nonprofit educational organization dedicated to empowering people in agroforestry and ecological resource management. The organization's internationally recognized publications have guided thousands of readers in becoming more proficient in ecological restoration, conservation, and reforestation, whether in a backyard, farm, or conservation area. Craig edits *The Overstory*, a bimonthly agroforestry journal with 7800 subscribers in over 175 countries. His books include *Agroforestry Guides for Pacific Islands* (2000), *Growing Koa: A Hawaiian Legacy Tree* (2003), *The Overstory Book: Cultivating Connections with Trees* (2004), *Traditional Trees of Pacific Islands: Their Culture, Environment, and Use* (2006), and *Noni: The Complete Guide for Consumers and Growers* (2006). E-mail: cre@agroforestry.net

J. B. Friday is the extension forester for the University of Hawai'i. He works with landowners, tree farmers, and professional foresters throughout the state on management of both native forests and tree farms. His particular interests are in restoration of native forests, silviculture of koa, agroforestry, and management of high value plantation timber species. Prior to coming to Hawai'i, Dr. Friday worked in agroforestry extension in the Philippines with the US Peace Corps. Dr. Friday is originally from the northeast, where he earned a bachelor's degree in biology at Dartmouth in 1982 and a master's in forestry at the Yale School of Forestry and Environmental Studies in 1985. He did his doctoral research on agroforestry on Kauai on competition between hedgerows and crops for light and nutrients and graduated from UH Mānoa in 1998. E-mail: jbfriday@hawaii.edu

Robert J. Joy is a Plant Materials Specialist with the Natural Resources Conservation Service (NRCS). He provides technical guidance in the use of plant materials and is responsible for carrying out a systematic plant selection, evaluation, and improvement program of plants used in soil and water conservation in the NRCS Pacific Islands Area. He received his B. S. in Horticulture and M. S. in Agronomy from the University of Arizona. He has been author or co-author of numerous scientific publications in cooperation with researchers at the University of Hawai'i and University of Arizona. E-mail: Robert.J.Joy@hi.usda.gov

Roger Leakey is Professor of Agroecology and Director of the Agroforestry and Novel Crops Unit, School of Tropical Biology, James Cook University in the wet tropics of Queensland, Australia. Between 1993–97 he was Director of Research at ICRAF (now the World Agroforestry Centre). He has undertaken studies on vegetative propagation, genetic improvement of tropical trees, tree domestication, soil microbiology, agroforestry in dry and moist tropics and moist forest regeneration, with research projects in Kenya, Cameroon, Ghana, Nigeria, South Africa, Namibia, Costa Rica, Indonesia, Malaysia, Papua New Guinea, Vanuatu and Solomon Islands. Since 1982, he has undertaken consultancies for ODA, World Bank, European Development Fund, FAO and ACIAR, in Malaysia, Thailand, Vietnam, Laos, Japan, Philippines, India, Bolivia, Costa Rica, ten countries of West Africa and Australia. E-mail: roger.leakey@jcu.edu.au

Ken Love has been involved in agriculture since he was first spanked for tearing up the front yard to plant beans to bring to his new kindergarten teacher. Specializing in tropical fruit, he currently promotes farm product diversification programs based on seasonality in order to spread the need for labor. E-mail: kenlove@hawaii.edu

Kauhane Morton is plant propagator and cultural monitor for the trails and historical sites at Kukio. He was raised on O'ahu's North Shore in Wailua and moved to the island of Hawai'i five years ago. He has extensive experience propagating and maintaining native Hawaiian plants. E-mail: kauhane@kukio.com

Scot Nelson has been a plant pathologist working for the University of Hawai'i at Mānoa College of Tropical Agriculture and Human Resources since 1992. He is stationed at the Cooperative Extension Service in Hilo, Hawai'i. His area of expertise is plant disease epidemiology and management. Scot works mainly with diseases of tropical crops and fruits such as kava, noni, banana, palms, coffee, and ornamentals, and landscape plants and also has worked with a wide variety of others including native plants, tropical fruits, turfgrasses and *Acacia koa*. E-mail: snelson@hawaii.edu

Diane Ragone is Director of the Breadfruit Institute at the National Tropical Botanical Garden in Hawai'i. She was a Ph.D. Fellow at the East West Center and received a Ph.D. and a M.S. in Horticulture from the University of Hawai'i. Her main research focus is ethnobotany and conservation of breadfruit. Additional research interests include documenting the history and status of economic plant introductions and crop plant collections in the Pacific islands. She also works with DigitalMedia Hawai'i/Pacific on videographic documentation of cultural practices in Oceania. Dr. Ragone has extensively worked throughout Oceania for more than 20 years to collect breadfruit cultivars and document traditional uses and cultural practices concerning this important crop. She established and manages the world's largest collection of breadfruit, located at NTBG's Kahanu Garden in Hana, Maui. She is developing the Breadfruit Institute as an international center to conserve breadfruit diversity and traditional knowledge and to promote its use for nutrition, income, and environmental protection.

Michael Robotham is the Tropical Technology Specialist for the USDA-NRCS Pacific Islands Area. His primary responsibility is to coordinate the development, evaluation and dissemination of tropical conservation technologies including agroforestry technologies. Before joining USDA-NRCS in 2002, Dr. Robotham was a member of the Extension Service faculty at Oregon State University working with small acreage farmers in the Portland area. He has a PhD in Agronomy and Soil Science from the University of Hawai'i and an MS in Resource Development from Michigan State University, and has over 15 years of experience working with integrated tropical agroecosystems in Hawai'i, the Pacific Islands, the Dominican Republic and the Philippines. E-mail: michael.robatham@hi.usda.gov

Deborah J. Ward is a practicing agroforester who lives in fear of falling fruit in Kurtistown, on the eastern side of Hawai'i Island. Born in Pennsylvania, Debbie has lived in the islands since 1966, and has been working to protect, preserve and restore native Hawaiian ecosystems, with sensitivity to cultural practices that evolved to sustain ecosystem health. Certified as a permaculture design instructor in 1991, she has a B.S. and M.S. in horticulture from University of Hawai'i at Mānoa. She retired from the faculty of the University of Hawai'i after working in Hilo for 23 years as a County Extension Agent for 4-H Youth Development Programs. She is active in Moku Loa Group of the Sierra Club, Hawai'i Organic Farmers Association, and a member for ten years with groups working to contain *Miconia*, an invasive tree that threatens forest health. She serves on the Environment Committee of the Mauna Kea Management Board, and has been active in promoting improved summit-wide management for the mountain. Debbie and her partner, Dr Fred Stone, who is director of the Forest TEAM ecosystem management program at Hawai'i Community College, developed Special Ti, an ornamental ti leaf nursery and a two-acre organic fruit orchard in Kurtistown in the Puna District. E-mail: dward@hawaii.edu