

American Samoa Nursery Workshop

July 9-12, 2012

Coordinators:

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Monday July 9

8:30-9:00 *Introduction*

- Introductions among workshop coordinators and attendees
- Goals for the workshop

9:00-10:00 *Nursery Mission and Needs - JB Friday*

- Choice of species to grow
- Needs assessment
- Roles of Forestry vs. Agriculture in providing trees to farmers

10:00 - 10:15 *Break*

10:15 – 11:15 *Target Plant Concept - JB Friday*

- Different stock for different planting situations
 - match species, stocktype, and seedling characteristics to site
- Characteristics of planting sites (soil, rainfall, wind, salinity, etc.)
- Development of a planting calendar for targeted species/sites
- Adjust plant production based on feedback from field performance

11:15 – 12:00 *Seed Collection, Processing, and Storage -JB Friday*

- Collection techniques and maintaining genetic diversity
- Hawaii Seed Bank video
- Pre-sowing treatments to improve germination
- Development of a seed collection calendar for important species

12:00 - 1:00 *Lunch*

1:00 - 1:45 *Containers - JB Friday*

- Types of containers – pros and cons
- Container characteristics - size, volume, shape
- Root development

1:45 – 3:30 *Visit to nursery*

- Seed cleaning and scarification exercises
- Examine sample container types and sizes

Tuesday July 10

8:30 - 9:30

Growing Media - JB Friday

- Essentials of potting mixes
 - aeration, water holding capacity, weight, nutrition, pH
 - influence on root development
- Availability of good materials for potting mixes in American Samoa
- Pros and cons of using soil vs. mixes
- Composting
- Beneficial microorganisms (rhizobia bacteria and mycorrhizal fungi)

9:30 – 10:15

Nursery design and environment- Diane Haase

- Characteristics of propagation structures
 - greenhouse, shelterhouse, shadehouse, and open growing area
- Management of environmental conditions
 - light, temperature, humidity, air flow, water, shade
- Other issues such as sanitation and theft prevention

10:15 – 10:30 ***Break***

10:30 - 11:45

Successful Outplanting - Diane Haase

- Seedling quality characteristics and grading for outplanting
- Maintaining seedling quality during handling, storage, transporting, and planting
- Site conditions and site prep
- Planting technique
- Treatments at time of planting
 - mulching, nutrients, protection from animals
- Post-planting maintenance

11:45 - 12:45 ***Lunch***

12:45 - 3:30

Field Visit

- Farm site where landowner has recently planted seedlings acquired from nursery in stewardship program
- Field exercise:
 - evaluate planting site conditions
 - excavate a seedling and evaluate shoot and root quality
 - discuss options to improve outplanting success

Wednesday July 11

- 8:30 - 9:45** ***Culturing Techniques - Diane Haase***
- Seed and vegetative propagation
 - Effects on genetic diversity
 - Tools to achieve seedling targets
 - fertilization, irrigation, light, temperature, etc.
 - Scheduling plant production
 - Hardening for outplanting
- 9:45 - 10:15** ***Record Keeping and Project Evaluation - JB Friday***
- Propagation and production records in the nursery
 - Field measurements
 - Survival, height, and DBH
- 10:15 - 10:30** ***Break***
- 10:30 - 12:00** ***Hands-On at Nursery***
- Subirrigation
 - Growing Media
 - Composting
 - Monitoring EC
- 12:00 - 1:00** ***Lunch***
- 1:00 - 3:30** ***Field Visit***
- Visit to a community forest planting site
 - Field exercise:
 - Census/measurements: survival, height, DBH
 - Record keeping and evaluation of project success
 - Visit to a community nursery if feasible

Thursday July 12

- 8:30 – 9:15** ***Integrated Pest Management (IPM): Invasive species - JB Friday***
- Avoiding introduction and spread of invasive species
 - Hawaii-Pacific Weed Risk Assessment
 - <http://www.botany.hawaii.edu/faculty/daehler/wra/default2.htm>
 - <http://hpwra.org>
 - <http://www.hear.org/pier/>
- 9:15 – 10:00** ***IPM: Insect Pests - Mark Schmaedick***
- How to diagnose nursery insects
 - How to avoid spreading insects
 - include information about ants from Cas Vanderwoude
- 10:00 – 10:15** ***Break***
- 10:15 - 11:00** ***IPM: Diseases – Dr. Atibalentja***
- How to diagnose nursery diseases
 - How to avoid spreading diseases
- 11:00 - 12:00** ***Hands-On at Nursery***
- Discussion of nursery design, layout, light, water, ventilation, and any issues
 - Follow-up discussion to IPM: phytosanitation, monitoring and management of insects and disease pests, and methods to avoid movement of pests.
- 12:00 - 1:00** ***Lunch***
- 1:00 – 2:00** ***Available Resources***
- Publications
 - Suppliers
 - Online Resources
 - RNGR website, PestNet, Native Plant Network, Flickr plant and insect identification sites, social networking resources
- 2:00 – 3:00** ***Planning***
- Follow-up actions by Amer. Samoa nursery, stewardship, and urban forestry teams
 - Upcoming grants - Funding and budgets for nursery needs
 - Plan for follow-up training by UH and Forest Service
 - Follow-up items for visiting Forest Service State and Private Staff
- 3:00 – 3:30** ***Workshop Evaluation***