



Renewable Resources Extension

# Hawai'i Forestry News



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## Conference on Soil and Site Productivity for Forestry in Hawai'i

A conference on soil and site productivity for forestry in Hawai'i held in Hilo in June drew over 70 scientists and forestry professionals. Forest managers in both the public and private sectors were updated on progress in our understanding of how soil types and management affect forest growth and what strategies exist to analyze soil constraints and optimize productivity.

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*Interplanting with *albizia* (*Falcataria moluccana*) produces superior growth of 18-year-old stands of *Eucalyptus saligna* at Chin Chuck (photo: R.S. Yost).*



*USDA NRCS soil scientist Bob Gavenda characterizes soils at forestry experiments at Chin Chuck (photo: D. Binkley).*

## A Note from our Extension Forester

Dear Tree Growers,

“Growing Working Forests for Hawaii’s Future” will be the title and theme of the next Hawai'i Forest Industry Association conference slated for June on Kaua'i. The conference, co-sponsored by CTAHR, the Garden Island RC&D, Kauai DOFAW, and the Hawai'i Forestry and Communities Initiative, will be tailored for the non-industrial private grower, although professional foresters, consultants, and others will find much of value. We will be presenting practical information on planning tree farms, establishing and maintaining plantations, and topics of general interest to growers such as economic analysis and property taxes. Management of both native forests and plantations will be covered, with the underlying idea that both may be managed sustainably for economic production. Sometimes, of course, the most valuable part of a conference is the chance to get together with other growers to swap success stories and discuss solutions to common problems, and there will

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## Soil and Site Productivity Conference

(Continued from page 1)

Dr. Jim Fownes of UH-CTAHR and the University of Massachusetts emphasized how soils of different ages on the different Hawaiian islands present different problems and opportunities for forestry. Dr. Dan Binkley focused on the nutrient use of fast-growing forest plantations on the Hamakua coast and the very promising results from the mixed species plantations pioneered by the Forest Service and the BioEnergy corporation in the 1980's. Dr. Mitiku Habte of UH-CTAHR described how mycorrhizae can improve tree growth both in increasing nutrient uptake and in avoiding toxic elements in the soil. Finally, Dr. Russell Yost outlined current progress in developing decision support systems for soil fertility management for trees as has been done for agricultural crops.

After each keynote talk, several case studies were presented of examples in Hawai'i by speakers from UH, the USDA Forest Service, the USDA Natural Resources Conservation Service, and the Hawai'i Agriculture Research Center. Field trips to forestry experiments and working plantations on the Hamakua Coast and in Waiakea illustrated contrasting effects of soils on tree growth.

A proceedings from the symposium will be available later this year. The conference was funded in part by the Renewable Resources Extension program.



*Different tree spacings affect individual tree and stand growth in Eucalyptus saligna stands at the Forest Production Biology experiment at Pepeekeo (photo: R. S. Yost).*

## Two Classic Forestry Publications Reprinted

Reprints are available through the CTAHR publications office of two classic publications of the USDA Forest Service Institute of Pacific Islands Forestry.

**Short-Rotation Management of *Eucalyptus*: Guidelines for Plantations in Hawaii** (Whitesell,

DeBell, Schubert, Strand, and Crabb, 1992, USDA Forest Service PSW-GTR-137) summarizes years of work by the Forest Service, the BioEnergy corporation, and others on growing eucalyptus on the Hamakua coast and in Ka'u on the Big Island. The manual covers species and provenance selection, site selection, planting stock, site preparation, planting, fertilization, weed control, interplanting with albizia, harvesting, insects and diseases, and economics of plantations. While it focuses on eucalyptus, the manual is valuable to anyone establishing plantations in Hawai'i. Growers in other parts of the state need to bear in mind, though, that the soil and site relationships and forest productivity values found on the former sugar cane lands on the Big Island may not hold true for other sites.

Woodworkers and millers will be interested in **Some Woods of Hawaii...properties and uses of 16 commercial species** (Skolmen, 1974, USDA Forest Service GTR-PSW-8). Based on years of wood technology work both in Hawai'i and at the Forest Products Lab in Madison, Wisconsin, *Some Woods of Hawaii* summarizes technical data on strength, durability, and working qualities of Hawai'i woods, including woods common in Hawai'i but rare elsewhere such as koa, milo, ohia, toon, and brushbox. The booklet includes four pages of color photographs illustrating the beauty of Hawaii's woods.

Both publications are available from the CTAHR publications office. *Short-Rotation Management of Eucalyptus* costs \$5.00 and *Some Woods of Hawaii* costs \$8.50 (includes postage and handling). Order forms may be downloaded from the CTAHR Website (<http://www2.ctahr.hawaii.edu/oc/forsale/>) or obtained by calling (808) 956-7036 or e-mailing to [ctahrpub@hawaii.edu](mailto:ctahrpub@hawaii.edu).

## New Forestry Information on the Web

We are pleased to announce that our own **Hawai'i Natural Resources Extension Homepage** now provides a comprehensive list of forestry links. Divided by topic, the resource now includes information links for:

- **Agroforestry** (tropical and temperate)
- **Economics** and financial aspects of forestry (including taxes)
- **Environmental Education** for Hawaiian forests
- **Forest Certification** for environmental sustainability and social equity
- **Forest Tree Seed** (including seed suppliers and the science of tree improvement)
- **Forest Tree Species** (including fact sheets on species suited for Hawai'i)

- **Forestry in Hawai'i** (including government and industry sites)
- **Measurement** of standing trees and cut logs
- **National and International Forestry Organizations** (government and private)
- **Native Hawaiian Trees and Plants**, Polynesian introductions, and alien and invasive species
- **Nurseries** for forest trees
- **Pests and Diseases**, forest health
- **Soils and Fertilizers** for Hawai'i
- **Urban Forestry** and ornamental trees (including use of native Hawaiian trees in landscaping)
- **Wood and other forest products** (including wood science and trade in tropical wood).

<http://www2.ctahr.hawaii.edu/forestry/>

Hawai'i agroforesters Craig Elevitch and Kim Wilkinson have edited and published the **Agroforestry Guides for Pacific Islands**. The *Guides* are rich sourcebooks of ideas and possibilities for agroforestry projects and non-industrial tree farms. They are nicely illustrated with pen-and-ink sketches and diagrams. Tables include information on hundreds of useful trees and plants. The authors draw on both Hawaiian and other Pacific island experiences. Chapters include:

1. Information Resources for Pacific Island Agroforestry
2. Multipurpose Trees for Agroforestry in the Pacific Islands
3. Nontimber Forest Products for Pacific Islands: An Introductory Guide for Producers
4. Integrating Understory Crops with Tree Crops: An Introductory Guide for Pacific Islands
5. Introduction to Integrating Trees into Pacific Island Farm Systems
6. Choosing Timber Species for Pacific Island Agroforestry
7. Economics of Farm Forestry: Financial Evaluation for Landowners
8. Multipurpose Windbreaks: Design and Species for Pacific Islands

All of these guides are available on-line as pdf files at <http://www.agroforestry.net>. In addition, the guides are available in printed form for \$24.95 plus shipping from Permanent Agriculture Resources, PO Box 428, Holualoa, HI 96725, tel. (808) 324-4427. (Shipping for the US is \$3.00 per copy.) Publication of the *Agroforestry Guides* was funded in part by the Western Region Sustainable Agriculture Research and Education program.

Hawai'i DLNR Division of Forestry and Wildlife's document **Criteria and Indicators for Sustainable Forest Management in Hawai'i, First Approximation Report 2000** is available in its entirety at <http://www.state.hi.us/dlnr/dofaw/pubs/forests2000/far2000.htm>. The document measures and reports on sustainability of forest management in our state. The report is built around a set of seven national and international criteria and indicators: (1) conservation of biological diversity; (2) maintenance of productive capacity of forest ecosystems; (3) maintenance of forest ecosystem health and vitality; (4) conservation and maintenance of soil and water resources; (5) maintenance of forest contribution to global carbon cycles; (6) maintenance and enhancement of long-term multiple socioeconomic benefits; and (7) legal, institutional and economic framework for forest conservation and sustainable management. *Criteria and Indicators for Sustainable Forest Management in Hawai'i* has helped to assess the current level of knowledge of Hawaiian forests; identify missing data, measure Hawaii's progress towards sustainable forestry, and provide vital forestry information for state and federal levels decision makers.

DLNR's Division of Forestry and Wildlife's **Fire Management Website** (at <http://www.state.hi.us/dlnr/dofaw/fmp/>) contains valuable local information relating to Hawaii's Land Fire Protection Law, fire field response maps, annual wildfire summary reports, fire prevention information, and news articles relating to local fires and fire prevention activities.

**FORVAL for Windows** (at <http://www.cfr.msstate.edu/fwrc/products/software/forval.htm>) is a user-friendly program developed by Mississippi State to help landowners evaluate timberland investments from a financial standpoint. The software calculates Net Present Value, Rate of Return, Equivalent Annual Income, Land Expectation Value, and Benefit/Cost Ratios. Users must supply their own costs and estimates of timber yields and stumpage values.

The **Agroforestry Database** (<http://198.93.235.8/cfdocs/examples/treesd/AFT/AFT.htm>) of the International Center for Research in Agroforestry (ICRAF) publishes well-researched summary articles on many agroforestry and forestry species. Summaries include botanical descriptions, ecology and distribution, propagation and management, uses, pests and diseases, and references.

## Kava Growers—Beware of “Golden” or False Kava

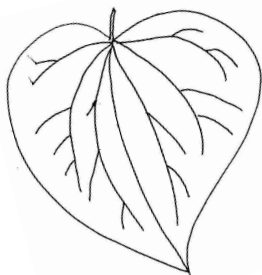
*Piper auritum*, a species native to Mexico resembling true kava, has been introduced to Hawai'i and has the potential to confuse unwary kava growers or become an invasive weed in Hawaii's wet forests.

*P. auritum* is a tall, shrubby plant with the thick stems and nodes like true kava (*P. methysticum*). The false kava may be identified by the leaf veins, which branch off the midrib along its entire length rather than coming together at the base as in the leaf of the true kava. Crushed leaves of the false kava also give out a strong anise or root beer odor. *P. auritum* does not possess kavalactones and so is not effective medicinally.

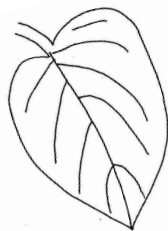
Unfortunately, the plant grows faster than the true kava and has been sold by some nurseries in Hawai'i and in other Pacific islands as “golden ‘awa” or “Hawaiian ‘awa.” If *Piper auritum* becomes established in Hawai'i, it may damage Hawaii's reputation as a kava producer. Moreover, the safroles which give *P. auritum* its characteristic odor may be carcinogenic.

While the plant sprouts from rhizomes and nodes, it is not known if the plant reproduces by seed in Hawai'i. Unlike kava, *P. auritum* is fertile in its native habitat.

More information about this plant (including pictures) is available online at <http://www.hear.org/pier/piaur.htm>.



True kava  
*Piper methysticum*



“Golden” or false kava  
*Piper auritum*

## UPCOMING WORKSHOPS

### AM Fungi Workshop slated for Summer 2001

Scientists have known for over 100 years about the existence of fungi which form mutualistic associations with the roots of most plant species. These fungi, known as arbuscular mycorrhizal fungi, help plant roots take up nutrients, especially on nutrient deficient sites. Today, foresters and conservationists are learning that they can give plants a head start on harsh sites by inoculating them with mycorrhizal fungi, and that the fungi can pro-

tect plants against certain pests and abiotic stresses such as drought and salinity.

Dr. Mitiku Habte, Dept. of Tropical Plant and Soil Science, UH Manoa, is currently developing a training workshop under a project funded by the Renewable Resources Extension Program. The focus of the training project is the judicial application of the arbuscular mycorrhizal technology with a particular focus on forest tree species in Hawai'i. The training workshop is tentatively slated for this summer.

The workshop will be useful and applicable to habitat restoration, native plant propagation and establishment of forests, and to organic farming. With the help of the workshop and a bulletin (currently being developed by Dr. Habte) which will accompany it, participants will learn about the nature of the arbuscular mycorrhizal (AM) association, AM inoculum production, production of mycorrhizal seedlings, and about the circumstances under which the technology can be applied with predictable efficacy.

Field trials are being organized in cooperation with Ho'oulu Mea Kanu in La'ie, O'ahu, to demonstrate the effectiveness of the the AM association under field conditions.

Due to the hands-on nature of the workshop, enrollment will be limited.

For more information about mycorrhizal fungi and the upcoming workshop, contact Dr. Habte at (808) 956-6498 (email: [mitiku@hawaii.edu](mailto:mitiku@hawaii.edu)).

## Agroforestry Sessions at Hawai'i Agriculture 2001 Conference

Mark your calendars for the **Hawai'i Agriculture 2001 Conference**, January 26th-27th, 2001, being held at the Waiakea Villas Hotel, Hilo, Hawai'i. Share innovative, responsible ways to capture profits and network with successful farmers and agricultural professionals. Progressive farmers, ranchers, researchers and educators from Hawai'i, the mainland, Japan, and the South Pacific will share their experiences.

Concurrent breakout sessions in the following theme areas will be offered: pasture-based animal production, sustainable cropping practices, integrated pest management (IPM), organic production, agroforestry, direct and niche marketing, marketing via the internet, agricultural tourism, rethinking ag land use policies, and farming for environmental remediation.

The cost is \$125 for early registration which includes all conference materials and meals. The registration fee increases to \$150 after January 19, 2001.

For more information call Dr. Richard Bowen (O'ahu) at (808) 956-8419 or Paula Helfrich (Big Island) at (808) 966-5416. To register, contact Mae Narimatsu, University of Hawai'i Hilo Conference Center, at (808) 974-7555.

#### **Hawai'i Agriculture 2001 Conference Website**

<http://www2.ctahr.hawaii.edu/sustainag/workshops.htm>

### **May Earth Live: A Journey through the Hawaiian Forest**

Hawaii's ancient forests are among the Earth's biological treasures, but today their riches are quietly vanishing in the face of rapid environmental change. *May Earth Live: A Journey through the Hawaiian Forest*, tells the story of these imperiled ecosystems—how they evolved in geographic isolation over millions of years, how they have been altered and in many cases destroyed by man, and how Herculean efforts to save them compete with the syndrome of extinction. Within an overarching theme of preservation, *May Earth Live* weaves together scientific inquiry with the perpetuation of Hawaiian culture.

*May Earth Live* debuted on Hawai'i Public Television on Nov. 9<sup>th</sup> and 11<sup>th</sup>, 2000, and was also shown at the Hawai'i International Film Festival. Copies of the video version can now be purchased from Hawai'i Public Television, 2350 Dole Street, Honolulu, HI 96822 and cost \$19.95 plus shipping and handling, phone (808) 973-1373.

*- Adapted from a press release from  
The Nature Conservancy*

### **Forest Stewardship Project Update**

#### **Koa Forest Restoration at Umikoa Ranch**

*by Karl Dalla Rosa, Hawai'i Division of Forestry and Wildlife,  
and J. B. Friday*

David Matsuura and the people of Umikoa Ranch are showing how to re-establish koa forests in Hawaiian uplands.

The degraded landscape of Umikoa Ranch, typical of mauka ranches of the Big Island, was the result of more than a century of cattle grazing. All that remained of a once diverse native forest was a sparse scattering of senescent koa (*Acacia koa*) trees.

Umikoa Ranch, with the assistance of the Hawai'i Forest Stewardship Program, has been re-establishing a native koa forest on an 850 acre parcel 5000 feet above the Hamakua coast. The ranch's objectives include re-establishment of native species, provision of an eco-tourism facility and the sustainable production of koa tim-

ber through selective harvesting.

Instead of establishing koa plantations, Umikoa Ranch has been relying on natural regeneration of koa from a buried seed bank left in the soil by the scattered remaining trees. The following management practices are being carried out in approximately 150 acre increments:

1. The area is first grazed heavily, then cattle are excluded.
2. All unhealthy and senescent koa trees are harvested and milled. Healthy, full crowned trees are left standing.
3. Heavy machinery is used to rip through and turn over pasture grass to expose mineral soil (scarification). During this process, dormant koa seeds are exposed to sunlight and warmth.
4. A grass-specific herbicide is applied to control pasture grass growth until the seedlings have reached a height of two to three feet.
5. Two to three months after scarification, poorly stocked areas are planted with nursery propagated seedlings.

Umikoa Ranch completed scarification of the first increment in September 1997. David Matsuura, the project manager, is so far very pleased with the success of his management strategy. Three years later, thick stands of koa have sprung up over 80 percent of the land treated. Seedlings are no where more than a few feet apart, leading to a density of thousands of trees per acre. In protected areas seedlings reach ten feet in height. The natural thinning process observed in other koa stands elsewhere will begin to eliminate the smaller trees, and the competition will tend to favor taller and straighter specimens. Occasional bare patches are being replanted.

To complement this Forest Stewardship project, Umikoa Ranch is also working with Ducks Unlimited to provide forest and wetlands habitat for the Hawaiian duck, or Koloa, which is one of only three endemic waterfowl surviving today in Hawai'i. The ranch is constructing ponds at locations on the ranch to provide wetland habitat for the birds and complement the restored forest.



*David Matsuura shows off 3-year-old koa regeneration in former pastures at Umikoa Ranch (photo: J.B. Friday).*

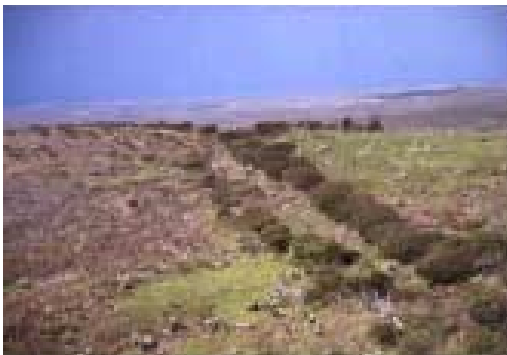
## Kalopi Dryland Forest Restoration

The dry, windswept ridges of Kohala once supported a diverse, although scrubby, Hawaiian forest. Judy and Will Hancock, with the assistance of the Hawai'i Forest Stewardship Program, are restoring the forest to a parcel of former ranch land.

The Hancocks have been planting koaia (*Acacia koaia*) and other dryland Hawaiian forest trees in the Kalopi reforestation project on their land on leeward side of the Kohala mountains since 1989. The 60 acre property had previously been grazed for decades. Today thick stands of koaia spread out below their house and follow drip line to the lower pastures. Most of the trees are short and bushy in form, with thick trunks quickly branching to rounded canopies. Few are taller than head height, but most appear healthy. The short, bushy form of the koaia is probably better adapted than the tall forest koa to the windy, dry Kohala landscape. Along with the koaia, the Hancocks are growing sandalwoods (*Santalum* spp.), and naio (*Myoporum sandwicense*). A windbreak of blue gum (*Eucalyptus globulus*) protects the home site and some of the koaia stands.

The Hancocks plant trees from dibble stock and water them infrequently but heavily through drip lines. In an area that averages about 20 inches of rain per year but has been getting much less than that the past few years, irrigation has proved necessary. Once established, the trees are irrigated only once every few weeks, but for several hours each time. The goal is to soak the soil deeply and encourage deep rooting. A tip the Hancocks share with others who are reforesting in dryland areas is to mulch the top of the plug of potting mix with soil when a seedling is planted from a dibble tube or pot. Otherwise the porous mix will act as a wick and dry out quickly. Despite record droughts in leeward areas in Hawaii the past several years, survival of the koaia has been excellent.

The goal of the Kalopi project is primarily to restore a native Hawaiian dryland forest. However, any



*A windbreak of healthy, 10-year-old koaia trees (Acacia koaia) at the Kalopi reforestation project in leeward Kohala (photo: J.B. Friday).*

wood harvested from dead or thinned trees will not go to waste. Like its cousin Acacia koa, koaia has beautifully grained and figured wood.

## New CTAHR Publication on Forest Economics

A new CTAHR publication, *Financial Analysis for Tree Farming in Hawaii* (RM-9), guides tree farmers in calculating economic costs and benefits of timber plantations. The pamphlet explains how to compare current costs of establishing plantations with anticipated future timber harvests to determine if tree farming is likely to be a profitable business. Discounting, net present value analysis, and break-even analysis for tree farms are described with examples from Hawaii. The publication will be available soon on line at the CTAHR publications page (<http://www.ctahr.hawaii.edu/oc/freepubs/#rm>) or at Cooperative Extension offices statewide. A companion spreadsheet with the examples from the pamphlet may be downloaded from the CTAHR Web site <http://www2.ctahr.hawaii.edu/oc/freepubs/spreads/>. The spreadsheet may be used as a template for growers to enter their own data to perform financial analysis for their own tree farms.

## Weed Control and Herbicides in Forestry

In tree farms in Hawai'i, weeds can choke out young trees in a matter of weeks. A good program of weed management is essential to successful tree farming. Weed competition can be reduced by using mulches, cover crops, and tree mats. Tree mats, squares of cloth or mesh with the seedlings planted in a hole in the center, are expensive but reduce weed growth directly adjacent to the tree, and therefore reduce the danger that the trees will be injured by herbicide applications or mowing machinery. Some growers control weeds by mowing between the tree rows, but mowing may not be feasible or cost-effective over large areas or rocky terrain.

For most growers, herbicides remain the least expensive and most effective way to release their crop trees from weed competition. However, many legal restrictions are placed on herbicide use, for reasons of worker safety, environmental health, and adverse effects for a given crop. Use of herbicides is also controversial in the public eye, and it is essential the tree farmers apply herbicides correctly. Over-application or misuse of herbicides can damage your health, the health of your trees or your neighbor's crops, hurt the environment, and lead to fines. Using the proper herbicide at the proper rate can protect your health, your money, and solve your weed problems with minimal risk to your other plants.

***Finding Herbicides for Hawaii's Tropical Trees***

All pesticides, including herbicides, must be registered with the EPA. All have a label, which includes a legal statement of how they may be used. It is not legal to use common household chemicals such as kerosene as pesticides. The label restricts herbicide use to a particular crop or site. Even if the weed or other pest is on the label, it is not legal to use the pesticide unless it is labeled for that crop or site. For most farm use, growers look for their particular crop. Few tropical forest trees, however, will show up on herbicide labels, simply because there is little demand for the manufacturers to do the testing required. Some herbicides are labeled for eucalyptus; none are for koa. Tree farmers should look for site-specific language that allows for use on tree farms. This is a bit of an art, as the site categories are not standardized. Some herbicides are labeled for forests or forestry, others for tree farms, silviculture, hardwoods, or woodlands. Before you purchase herbicides or any pesticides, read the labels carefully and be sure you can use them on your trees or on your site.

***Protect Yourself—Read that Label***

Even after you find a herbicide labeled for the crop or site you want to treat, the label may contain restrictions as to who may apply the herbicide, what protective gear is required, and conditions under which the herbicide may be applied. A few herbicides are restricted to use only by certified applicators; this may be because of potential health hazards to humans, but also because of hazards to the environment such as herbicide mobility in the soil.

The label is written for a particular brand name and formulation of herbicide, as sold in the stores. Some chemicals, such as glyphosate, may be sold under several different brand names, or as different concentrations or with different additives, and each of these will have a different label allowing specific uses.

Labels change as new uses or new restrictions are added. Users must be sure that the herbicide they purchased is labeled for the intended use. Labels may either be attached to smaller containers or included as booklets along with the larger containers. In addition to the regular label, "special local needs" labels are available which allow the use of some herbicides with some of our unusual tropical plants in Hawai'i. The Hawai'i Department of Agriculture is the enforcing authority with regard to pesticide laws in the State, and they can help with questions of what herbicides may be used in forestry projects.

***Herbicides that Work in Hawai'i***

Different herbicides work on different plants, and users should first clearly identify their problem weeds. Some herbicides work better on woody brush, others on grasses. Some herbicides have residual action and are best used for clearing fences and keeping weeds out of roads and right-of-ways. Others are quickly made inactive in contact with the soil and are better used in areas to be planted. For information as to what herbicides have been found effective on specific weeds in Hawai'i, see CTAHR's *Summaries of herbicide trials for pasture, range, and non-cropland weed control*. For more information on how to use herbicides, consult *Before you buy or apply an herbicide* and *Woody plant control for the home, pasture, and forest*. CTAHR publications are available at Cooperative Extension offices statewide and on the CTAHR Website, <http://www2.ctahr.hawaii.edu/oc/freepubs/>.

***Training Programs Available***

CTAHR also provides training for people interested in becoming certified pesticide applicators through the Pesticide Applicators Training Program. Classes are scheduled annually on both O'ahu and the neighbor islands; schedules are posted on the Website <http://pestworld.stjohn.hawaii.edu/epp/pat.html>.

To register for classes, call the Agricultural Diagnostic Service Center at (808) 956-6706 or email [charlie@hpirs.stjohn.hawaii.edu](mailto:charlie@hpirs.stjohn.hawaii.edu).

***On-Line Info Sources***

Several on-line databases of pesticides exist. For Hawai'i-specific information, CTAHR maintains the Hawai'i Pesticide Information Retrieval System (<http://pestworld.stjohn.hawaii.edu/cfdocs/test/hpirs.htm>). C&P Press offers free use of their Greenbook database of pesticide labels (<http://www.greenbook.net/free.asp>), and Crop Data Management Systems posts labels and MSDS on their Website (<http://www.cdms.net/manuf/manuf.asp>). On-line labels may not be exactly the same as the label sold with the product, however, so users should check the label on the product as sold. The USDA Forest Service maintains pesticide fact sheets giving information formulations, use, environmental and health effects, and safety precautions for different pesticides (<http://infoventures.com/e-hlth/pesticide/pest-fac.html>).

Remember that once the canopies of the trees close over the rows, weed control will become much easier. And always read and follow the herbicide label!



Forestry extension at the University of Hawai'i is supported by the USDA Renewable Resources Extension Act program (RREA), the Hawai'i Forestry and Communities Initiative (HFCD), and a grant from the Fund for Rural America (FRA) Program, USDA. Passed by Congress in 1978 and administered by the USDA, RREA provides grants to states to disseminate information to the public on forestry, rangeland, and other natural resource issues. The goals of Renewable Resources Extension include development of a stewardship ethic, an appreciation of biodiversity, and a knowledge base that will sustain natural resources. RRE works through existing extension programs to incorporate key natural resource concepts.

*This newsletter is published by the Hawaii Renewable Resources Extension Program. To subscribe, call, email, or write to us at: Renewable Resources Extension, CTAHR—University of Hawai'i, Dept. of Natural Resources and Environmental Management, 1910 East-West Rd., Honolulu, HI 96822, Tel. (808) 956-7530, Fax (808) 956-6539, Web: <<http://www2.ctahr.hawaii.edu/forestry/>> In Hilo, contact: J.B. Friday, Tropical Forestry Extension Specialist, CTAHR Cooperative Extension Service, 875 Komohana St., Hilo, HI 96720, Tel. (808) 959-9155, Fax (808) 959-3101, e-mail: <[jbfriday@hawaii.edu](mailto:jbfriday@hawaii.edu)>.*

*Mention of a trademark, company, or proprietary name does not constitute an endorsement, guarantee, or warranty by the University of Hawaii Cooperative Extension Service or its employees and does not imply recommendation to the exclusion of other suitable products or companies. Caution: Pesticide use is governed by state and federal regulations. Read the pesticide label to ensure that the intended use is included on it, and follow label directions.*

### Forest Policy Experts Mailing List

For a insightful articles on international forestry issues, you cannot do better than to subscribe to the Forest Policy Experts (POLEX) electronic listserve. David Kaimowics of the Center for International Forestry Research (CIFOR) digests and summarizes current state of the art papers on international forestry issues such as carbon sequestration and global warming, the effects of war on forests, and sustainable timber production in the tropics. If you would like to terminate your subscription to the POLEX mailing list, send an email to [LISTSERV@CGNET.COM](mailto:LISTSERV@CGNET.COM) containing the message: SUBSCRIBE POLEX or contact David Kaimowitz at [d.kaimowitz@cgiar.org](mailto:d.kaimowitz@cgiar.org).

### A Note from our Extension Forester

*(Continued from page 1)*

be ample opportunity to do that. The conference will be held June 6–8 at the Kaua'i Coconut Beach Resort. The first two days will be in session at the resort, while the third day will be field trips to visit new and established tree farms on Kaua'i. The Hawai'i Forest Industry Association will be taking reservations when the final agenda and budget are prepared. Updates will be available on our Website and the Hawai'i Forest Industry Association Website, <http://hawaiiforest.org>.

  
J.B. Friday  
Extension Specialist in Forestry

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