

# The Pesticide Label

*Key to Pesticide Safety and Education*

January–April 2006

Department of Plant and Environmental Protection Sciences

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## Staff’s Notes

The eight-page leaflet *Test Your Math Skills* is a simple workbook employers could use to tutor employees in basic math calculations. Get it from the Internet at <http://pestworld.stjohn.hawaii.edu/pat/schedule.html>. (Click on link for item 6 in the section “On This Page.”) The leaflet presents exercises and answers that will help employees practice basic math skills needed to do pesticide dosage and dilution calculations. The exercises review (1) common fractions and their decimal number equivalents, (2) rounding off, (3) per cent (4) conversions between seconds and minutes, ounces and pounds, fluid ounces, pints, and gallons, square feet and acres, (5) reading numbers in tables, and (6) calculating square feet of rectangular areas. Build on these basic skills to help someone prepare for the Hawaii Department of Agriculture’s certification exam questions.

Aloha,

Charles Nagamine, Instructor  
Pesticide Risk Reduction Education Program

THIS NEWSLETTER IS SUPPORTED IN PART BY THE STATE OF HAWAII DEPARTMENT OF AGRICULTURE.

## Regulatory Updates

### NEW OR RENEWED

For growers of **Macadamia nuts**—use of the pesticide **Gramoxone® Max Herbicide** (Syngenta Crop Protection; EPA Reg. No. 100-1074)—requires having a copy of **HI-020008**, valid 2/8/2006–2/7/2011—some notes: • 1 day to harvest. • Chemigation prohibited. • This is a restricted use pesticide. • This is an agricultural use pesticide so the Worker Protection Standard applies.

For users of **plastic bait traps, fiberboard blocks or similar dispensers, telephone or light poles or other inanimate objects, non-food tree trunks or limbs**—use of the pesticide **Dibrom Concentrate** (Amvac Chemical; EPA Reg. No. 5481-480)—requires having a copy of **HI-000005**, valid 2/6/2006–2/5/2011—some notes: • Place all baits out of reach of children and pets. • If methyl eugenol is used as an attractant, do not apply within 1/2 mile of native or mixed native forested areas without first consulting the Hawaii Dept. of Land and Natural Resources, Division of Forestry and Wildlife for guidance. • Do not apply on any item that may be used for food or feed. • Permission from property owner must be obtained prior to application. • Each bait dispenser or treated object shall be posted, listing a contact phone number and identifying it as containing or being treated with a fruit fly attractant containing the insecticide Dibrom®.

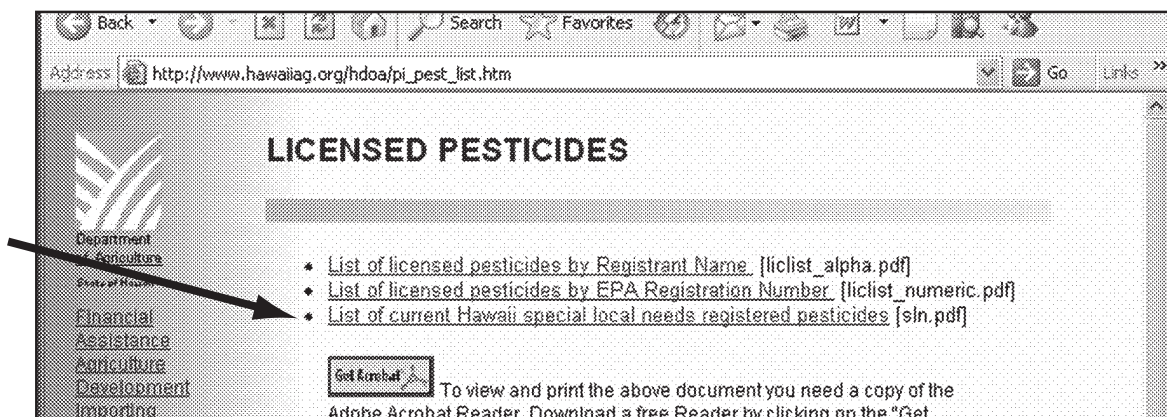
For growers of **ginger root (*Zingiber officinale*)**—use of the pesticide **Terr-O-Gas® 98** (Great Lakes; EPA Reg. No. 5785-22)—requires having a copy of **HI-910006**, valid 3/29/2006–3/28/2011—some notes: • For pre-plant soil treatment. • Two trained persons must be present during fumigation. • Sign posting required. • Aerate soil at least 14 days before planting. • Accurate scale for measuring required; do not use bathroom scales. • Do not use in mixture with other pesticides. • Comply with container label requirements for emergency protective clothing and equipment. • Worker Protection Standard applies. • This is a restricted use pesticide.

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## Special Local Need Labeling for Hawaii

A list of *valid* special local need labeling for Hawaii is available at the Hawaii Department of Agriculture's webpage:

[http://www.hawaiiag.org/hdoa/pi\\_pest\\_list.htm](http://www.hawaiiag.org/hdoa/pi_pest_list.htm)



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**RECERTIFICATION CREDITS** may be earned by certified applicators (except those in *commercial* categories 8 and 10) who take advantage of any "recertification topic" article in this newsletter.

To earn credit(s) for an article, an applicator must correctly answer at least 70% of the evaluation questions prepared by the Hawaii Department of Agriculture staff. For more information, telephone one of these HDOA offices: Kauai 274-3069, Oahu 973-9409 or 973-9424, Maui 873-3960, Hawaii 974-4143. The area code for all offices is 808.

## Sprayer Clean-out Procedures (Recertification Topic)

It's best to clean your sprayer after each spray job. A thorough washing will remove pesticide residue that builds up on inside and outside surfaces. Rinsing and flushing will at least clear out small amounts of tank mix clinging to surfaces or settling in low spots in your sprayer's plumbing.

Clean your sprayer as soon as possible. Waiting allows spots and splashes to dry which makes residual chemicals harder to remove. The residue could be a visible powdery deposit or an oily, sticky, or paste-like coating. If any residue penetrates the surface of non-resistant plastic and rubber parts, it will be practically invisible. Fertilizer, wetting agents, drift retardants, and other components of the tank mix will become part of this buildup.

### Unwashed Sprayers

Sprayer parts made of non-resistant material will weaken with exposure to corrosive or solvent chemicals in tank mixes. If not replaced, the parts will fail and cause problems. For example, strainers made of fine wire screen could corrode so much that lumps of solid material would pass through them and clog nozzles. Pressurized hoses just barely held in place by a corroded clamp or fastener could suddenly disconnect and splash tank mix on anyone nearby.

Residue buildup in nozzle tips and strainers can distort spray patterns and restrict the *gallons per minute* rate of tank mix flowing through nozzles. Having control of these factors is necessary for uniform, complete, and predictable coverage with sprayers.

### Tank Mix Contamination

Undrained tank mix or built-up residue can become contaminants as they come loose or redissolve in later tank mixes. When sprayed on valuable plants, a contaminated tank mix could cause two problems: illegal residue and phytotoxicity.

**Illegal residue** could become a problem if a food crop grower uses the same sprayer to treat different food crops with different pesticides. It could happen like this: First, the grower treats crop A with pesticide A. At the end of this spray job, a small amount of pesticide A remains in the sprayer as buildup or as undrained tank mix. Then, the grower uses the same sprayer (unwashed) to treat crop B with pesticide B. At the same time, some residue of pesticide A contaminates the tank mix and is also sprayed on crop B. As a result, while harvested crop B is offered for sale, the residue of pesticide A would be considered *illegal* if food safety rules do not permit *any* amount of pesticide A on crop B. To enforce the rule, food safety regulators could order the seller to withhold harvested crop B from sale.

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**Phytotoxicity** could be a problem if you spray valuable plants with a tank mix that is contaminated with pesticide left by a previous tank mix. We call a chemical *phytotoxic* if it can harm or poison plants. (Common symptoms of phytotoxicity are stunted growth and distorted or discolored leaves, though look-alike symptoms may be caused by non-chemical factors.) If we accidentally apply enough residue of any chemical to valuable plants that happen to be sensitive to the chemical, there will be a phytotoxicity problem. We don't expect residues of insecticides, fungicides, and nematicides to be phytotoxic because we apply those products to protect valuable plants from pests. But residues of these chemicals might be phytotoxic when applied to very sensitive plants. Herbicides however, are made to kill plants (i.e., weedy plants) so they are more likely to cause phytotoxicity problems. Some herbicides affect plants at such low concentrations that even a little bit of their residues carried over into the next tank mix could cause problems.

## Separate Sprayers

When preventing phytotoxicity is important, you could dedicate one sprayer to herbicides and a different sprayer for other pesticides. The dedicated sprayer will be an added expense but at least it would prevent a herbicide from contaminating your non-herbicide tank mixes.

## Reducing Sprayer Cleaning Needs

Here are some suggestions to reduce cleaning needs:

- Carefully plan how much tank mix you make, so that you use it all by the time you finish spraying the field.
- Be sure that the sprayer is clean before you use it.
- When you combine two or more chemicals in a tank mix, add them in the correct order. Some chemicals, when mixed in the wrong order, can actually be more difficult to wash out from the equipment. Consult the pesticides' labels for the proper mixing order.

## Sprayer Components

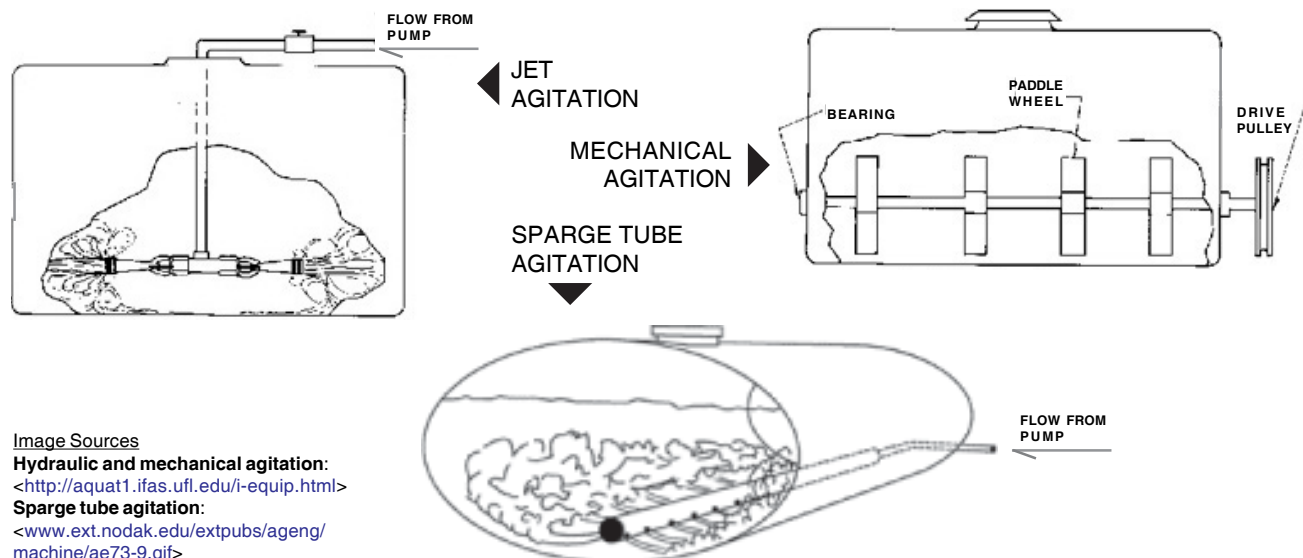
Both interior and exterior surfaces of the sprayer should be cleaned. Sprayer parts that need cleaning inside include the tank, pump, hoses and pipes, strainers, valves, and nozzle assemblies. Do not overlook hard-to-see spots that could become mysterious sources of residue, such as:

- **Cracks and pits in surfaces of sprayer parts**, e.g., inside old hoses.
- **Low points in sprayer plumbing**. These trap small amounts of tank mix because they don't drain completely by gravity. If possible, refit or reroute plumbing to allow drainage to one low point and have a drain at that point. This will give you maximum benefit from your tank cleaning solutions and make the most efficient use of your time and supply of washing water.
- **Tank interior**. There could be residue in, on, or around baffles (short dividers made to control sloshing), the sump (a low spot formed to completely drain the tank), and fittings for the agitation system, the suction

### Recommended Reading

There is a discussion with illustrations of sprayer plumbing and maintenance in "Plumbing Systems of Agricultural Sprayers." Get it from the Internet at [www.ext.vt.edu/pubs/bse/442-452/442-452.html#L3](http://www.ext.vt.edu/pubs/bse/442-452/442-452.html#L3). At the bottom of the webpage, there is a link you could click on to download the PDF file. This is the Virginia Cooperative Extension's 2001 publication number 442-452.

## AGITATION SYSTEMS



### Cleaning Nozzle Tips

- Do not put your lips to the nozzle tip to blow air through it.
- Do not poke a wire into the hole to unclog it. Wire that is harder than the nozzle tip will enlarge or distort the hole which was shaped to precise sizes and angles.
- Use a brush with plastic bristles to clean nozzle tips you will use again.

line, and any lines that return pressurized liquid to the tank. Don't ignore the *top* surfaces inside the tank.

- **Strainers.** Three common strainers are the filling *basket* (placed in the opening in the top of the tank), a *line strainer*, and one *nozzle strainer* inside each nozzle assembly. In some **backpack sprayers**, a strainer may be housed in the hollow handle-and-trigger assembly. Learn the exact location in your sprayer by reviewing the parts list and diagram in your owner's guide.

Give special attention to strainers and nozzle assemblies for better control of sprayer residue. Remove, inspect, and clean them separately from the rest of the sprayer. Replace worn parts.

### When to Clean

If you will use your sprayer to treat more of the same plantings with the same pesticide later in the same day, at least flush out your sprayer as soon as possible to control residue buildup and corrosion. But thoroughly clean out your sprayer if you will use it to treat a different planting or to apply a different pesticide, especially after applying a herbicide.

### Sprayer Cleaning Tips

- Clean out your sprayer in or close to the site you just treated.
- Bring clean water to the site. For large powered sprayers, consider setting up a tank rinse system like the one described under "Tank Rinse Systems" (following this article).
- Do not repeatedly discard wash and rinse water on the same small area. Residue could accumulate in the soil there, deeper with each discard if it is not allowed enough time to breakdown.
- Do not leave puddles of cleaning water. Animals could drink from them and people could walk in them.

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- Do not discard wash and rinse water into ponds, ditches, streams or other clean water sources. Also, remember: roadside storm drains may empty into streams, wetlands, or the ocean. Discarding cleaning water on sites up-slope and close to these water sources and channels could leave residue that would runoff with heavy or steady rainfall.
- Choose a cleaning agent and procedure based on the pesticide(s) you applied. The pesticide's label may give advice.
- Household detergents, such as laundry soaps and household ammonia, can be used, but they may not adequately deactivate and dissolve the pesticides for effective cleaning. Chlorine bleach solutions should not be used. Several sprayer cleansers are commercially available. (See details below, under "Sprayer Cleansers.")
- Open and close valves while washing and flushing your sprayer's interior. The valves trap residue and tank mix that should also be cleaned out.

Sources:

Landers, Andrew (Cornell University, Department of Agricultural and Biological Engineering). "Solutions for Safer Spraying." 17 Feb. 2006 <[http://lenewa.netsync.net/public/Guidelines\\_2005/Spray\\_Solutions.htm](http://lenewa.netsync.net/public/Guidelines_2005/Spray_Solutions.htm)>

Herzfeld, Dean, et al. *Private Pesticide Applicator Training Manual, 18.2 Edition*. Regents of the University of Minnesota, University of Minnesota Extension Service. 2004. 21 Feb. 2006 <[www.extension.umn.edu/pesticides/pat/ppatman/ppatmanual.html](http://www.extension.umn.edu/pesticides/pat/ppatman/ppatmanual.html)>.

Hofman, Vern and E. Solseng. "Spray Equipment and Calibration" (AE-73 revised September 2004), Agricultural and Biosystems Engineering, North Dakota State University. 21 Feb. 2006 <[www.ext.nodak.edu/extpubs/ageng/machine/ae73-1.htm#Contents](http://www.ext.nodak.edu/extpubs/ageng/machine/ae73-1.htm#Contents)>.

Grisso, Robert, et al. "Plumbing Systems of Agricultural Sprayers" (publication number 442-452). Virginia Tech. posted December 2001. 21 Feb. 2006 <[www.ext.vt.edu/pubs/bse/442-452/442-452.html#L7](http://www.ext.vt.edu/pubs/bse/442-452/442-452.html#L7)>.

Harrison, Scott A. and W. Hock. 1998. "Options for In-field Pesticide Sprayer Rinsing and Clean Water Utilization" (Agrichemical Fact Sheet). The Pennsylvania State University, Cooperative Extension. 2 Mar. 2006 <[www.pested.psu.edu/resources/facts/](http://www.pested.psu.edu/resources/facts/)>

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## Sprayer Cleansers (Recertification Topic)

Several sprayer cleansers are commercially available. These cleansers should be selected based on the pesticide formulation used. Specific recommendations can be found on the pesticide label, by contacting the pesticide manufacturer, or by reading the label or contacting the manufacturer of the cleaning agent you wish to use. Some available cleansers are listed in the table below. Household detergents, such as laundry soaps and household ammonia, can also be used, but they may not adequately deactivate and solubilize the pesticides for effective cleaning. Chlorine bleach solutions should not be used. Cleaning agents can be used to wash both the inside and outside of the sprayer. When using commercial cleansers, follow the product's instructions for the best results.

### Commercially available sprayer cleansers

**Protank Cleaner**, Agriliance, P.O. Box 64089, St. Paul, MN 55164-0089. Phone: (651) 451-5151. <[www.agriliance.com](http://www.agriliance.com)>.

**Wipe-Out**, Helena Chemical Company, 225 Schillig Blvd., Collierville, TN 38017. <[www.helenachemical.com](http://www.helenachemical.com)>.

**All Clear Tank Decontaminator**, UAP Loveland Industries, Inc., P.O. Box 1289, Greeley, CO. 80632. Phone: (970) 356-8920. Fax: (970) 356-8926. <[webmaster@lovelandindustries.com](mailto:webmaster@lovelandindustries.com)>.

**Ag Chem Tank Cleaner**, Ag Chem Equipment Co., Ag Chem Division, 202 Industrial Park, Jackson, MN 56143. Phone: (800) 760-8800. <[www.sprayparts.com](http://www.sprayparts.com)>.

Source:

Landers, Andrew (Cornell University, Department of Agricultural and Biological Engineering). "Solutions for Safer Spraying." 17 Feb. 2006 <[http://lenewa.netsync.net/public/Guidelines\\_2005/Spray\\_Solutions.htm](http://lenewa.netsync.net/public/Guidelines_2005/Spray_Solutions.htm)>

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## Tank Rinse Systems (Low-volume Tank Rinsing) (Recertification Topic)

**T**ank rinse systems consist of a clean water supply tank mounted to the sprayer, and one or more rotating discs or nozzles mounted inside the main sprayer tank. Water is pumped from the clean water tank to the rinse nozzles where the water is sprayed around the inside of the spray tank. These systems are designed for in-field rinsing of the sprayer so that the tank washings can be applied to the field; this reduces the amount of time spent traveling to and from the farmyard.

A tank rinse system can be purchased as an option on some sprayers or as an add-on kit. Rinse systems can also be made from readily available parts and installed on the sprayer.

A typical rinse system uses 360-degree tank wash nozzles mounted in the top of the tank. These nozzles are available in flow rates of 10 gallons of water per minute at 20 psi up to 20 GPM at 50 psi. If a spray tank has baffles, at least one rinse nozzle per compartment should be provided. In any case, a sufficient number of rinse nozzles should be installed to provide enough rinse water to contact the entire tank interior. A 50 to 100 gallon tank is plumbed into the sprayer plumbing system to provide the clean water. This tank should be permanently marked "Clean Water Only" so that only clean water is placed in the tank reducing the chance for contamination of the rinse system. The tank should be mounted above the pump in order to aid in priming the pump. Ideally, the tank should be mounted on the sprayer.

When using tank rinse systems, you may want to check the pesticide label or with the chemical manufacturer to be sure that low-volume rinsing is suitable for the products you're using. Also, during the rinse process, be sure to open and close the pressure valve and other control valves on the sprayer to ensure that any chemical that may be trapped in the valve is rinsed out, further reducing the chance for contamination of future pesticide mixes. To obtain the best results, practice using the rinse system by placing spray marker dye or food coloring in the spray tank. Using the rinse system, run three rinse cycles, making sure the water discharged from the nozzles is completely clear by the end of the third rinse.

Source:

Landers, Andrew (Cornell University, Department of Agricultural and Biological Engineering). "Solutions for Safer Spraying." 17 Feb. 2006 <[http://lenewa.netsync.net/public/Guidelines\\_2005/Spray\\_Solutions.htm](http://lenewa.netsync.net/public/Guidelines_2005/Spray_Solutions.htm)>

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### Recommended Reading

Harrison, Scott A. and W. Hock. 1998. "Options for In-field Pesticide Sprayer Rinsing and Clean Water Utilization" (Agricultural Fact Sheet). The Pennsylvania State University, Cooperative Extension. 2 Mar. 2006 <[www.pested.psu.edu/resources/facts/](http://www.pested.psu.edu/resources/facts/)>

## Pest Management Publications from CTAHR

The University of Hawaii's College of Tropical Agriculture and Human Resources released the following free publications. All may be viewed and downloaded from the Internet. Printed copies of some may be purchased from the College's Publications and Information Office. See details posted at <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs.asp](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs.asp)>, or inquire by calling 808-956-7038 or by emailing to [ctahrpub@hawaii.edu](mailto:ctahrpub@hawaii.edu).

At <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs03.asp#FruitsAndNuts](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs03.asp#FruitsAndNuts)>:

- **Noni seed handling and seed production**, July 2005, Publication F&N-10.
- **Panagmula ti papaya ditoy Hawaii (Papaya production in Hawaii)**, August 2005, Publication F&N-3a in Ilocano.
- **Papaya production in Hawaii (English version)**, June 2000, Publication F&N-3.

At <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs06.asp#InsectPests](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs06.asp#InsectPests)>:

- **Banana moth as a pest of coffee**, July 2005, Publication IP-21.
- **Stinging nettle caterpillar**, September 2005, Publication IP-22.
- **Banana moth—a potentially fatal pest of Pritchardia and other palms**, September 2005, Publication IP-24.

At <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs06.asp#InsectPests](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs06.asp#InsectPests)>:

- **Mite control chart for ornamental crops**, September 2005, Publication MP-4.

At <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs08.asp#PlantDisease](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs08.asp#PlantDisease)>:

- **Noni root knot, a destructive disease of *Morinda citrifolia* in Hawaii**, July 2005, Publication PD-27.
- **Integrated pest management for 'awa (kava, *Piper methysticum*)**, July 2005, Publication PD-28.
- **Rhizopus rot of jackfruit**, July 2005, Publication PD-29.
- **Stem bleeding of coconut palm**, September 2005, Publication PD-30.
- **Rust of ko'olua'ula (*Abutilon menziesii*)**, September 2005, Publication PD-31.

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## Pest and Disease Images for Coffee and Kava

December 2005

Scot C. Nelson, Associate Specialist,  
Plant Pathology, Department of Plant  
and Environmental Protection Sciences,  
College of Tropical Agriculture and  
Human Resources, University of  
Hawaii at Manoa

In September 2005 we launched two new online image galleries with more than 230 photographs of pest and disease problems for two important beverage crops in Hawaii, coffee (*Coffea arabica*) and kava (*Piper methysticum*). The images were provided to help growers diagnose their pest and disease problems in Hawaii and the Pacific.

The pest and disease problems are listed alphabetically, and related photos are listed beside each problem and described with simple text phrases. Users of the sites can click on the text phrases to see high quality images of disease symptoms or insect pests. The two galleries



Coffee berries diseased



Awa leaf abnormal

link to and are intended to supplement the information already available online at the CTAHR Crop Knowledge Master, the CTAHR Farmer's Bookshelf, and the Hawaii Pesticide Information Retrieval System, which have additional information for coffee and kava. In the first 3 months there were over 5,000 images downloaded.

Images are copyright-free and users may download and use the images in any way they wish. In addition, users may request high-resolution versions of the images that appear in the galleries. Users may also submit images to be included in the gallery. Users may also request a CD containing both image galleries.

In the future, we intend to add general crop production and/or processing photos to the websites. Photographs for the image galleries were contributed by Scot Nelson, H. C. Bittenbender, Virginia Easton-Smith, Mark Wright, Arnold Hara, Mike Nagao, Mario Serracin, and The University of California. Questions or comments about the image galleries may be directed to Scot Nelson, by email to [snelson@hawaii.edu](mailto:snelson@hawaii.edu).

**Coffee** Pest & Disease Image Gallery:

[<http://www2.hawaii.edu/~coffee>](http://www2.hawaii.edu/~coffee)

**Kava** Pest & Disease Image Gallery:

[<http://www2.hawaii.edu/~snelson/kava>](http://www2.hawaii.edu/~snelson/kava)

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Also see Dr. Nelson's recent **Koa** Pest and Disease Image Gallery:

[<http://www2.hawaii.edu/~snelson/koa/>](http://www2.hawaii.edu/~snelson/koa/)

## Diseases of Hawaii Forest Trees

**K**oa wilt and ohia rust are diseases of two major Hawaii forest trees. Information about these are illustrated and explained at the website of the UH College of Tropical Agriculture and Human Resources' "Hawaii Forestry Extension" program. View koa wilt information at [<www.ctahr.hawaii.edu/forestry/Data/Pests\\_Diseases/koa\\_wilt.asp>](http://www.ctahr.hawaii.edu/forestry/Data/Pests_Diseases/koa_wilt.asp) and ohia rust information at [<www.ctahr.hawaii.edu/forestry/Data/Pests\\_Diseases/ohia\\_rust.html>](http://www.ctahr.hawaii.edu/forestry/Data/Pests_Diseases/ohia_rust.html). Color photos of the signs and symptoms of infection are included to aid identification and raise awareness about these diseases.

Koa wilt is a particular concern, as it is often fatal. But experts do not know whether it is a naturally occurring or an exotic disease, how far it will spread, and how much resistance is out there among koa populations.

Ohia rust is clearly an exotic disease and has rapidly spread among all the major islands. It also infects Eucalyptus, so it is a concern for commercial forestry as well as conservation forestry.

Source: J.B. Friday, Extension Forester, College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa. 10/10/05 email.

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## The “Termite Project” Website

## Reregistration Eligibility Decision for Mancozeb and Maneb (EBDC Fungicides)

By Cathy Tarutani, Project Manager,  
Hawaii Pest Management and  
Regulatory Information and  
Notification Network

Mancozeb products are licensed for sale in Hawaii under the trade names Dithane®, Fore®, Gavel®, Junction®, Manzate®, Mankocide®, Penncozeb®, Zyban®, Protect™, and Ridomil Gold® MZ.

Maneb products are licensed for sale in Hawaii under the trade names Manex®, and Maneb.

University of Hawaii researchers and educators offer up-to-date, useful pictures, short movies, and write-ups about detecting and managing drywood and subterranean termites in Hawaii. View this information at <<http://www2.hawaii.edu/~entomol/index.htm>>. The **Homeowner’s Guide** section is for homeowners who want to learn about termite identification, life cycles, swarming, building and property inspection, prevention tips, steel-framing, treated lumber, removable baseboards, soil-treatment insecticides, baiting systems, physical barriers, fumigation, heat treatment, and store-bought products.

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**E**PA’s regulatory decision of December 2005 will eliminate or limit certain labeled uses of mancozeb and maneb, two active ingredients in popular fungicides. These changes will affect growers who use the products to treat sweet corn, grapes, pineapple propagation material, certain flower and ornamental crops, turfgrass, and sod (to be transplanted). Still to be decided are the dates for changing the labels and rules about using up the products with current labeling. Here are some notes about the decision.

On December 28, 2005, the Environmental Protection Agency announced the availability of the *Reregistration Eligibility Decision* (RED) for **mancozeb** and **maneb**. (There is more about the RED process below, in the article “What is Pesticide Reregistration.”) Mancozeb and maneb are members of the ethylene bisdithiocarbamate (EBDC) group of fungicides.

**Mancozeb** is currently registered for use on a wide variety of food and feed crops, including tree fruits, vegetable crops, field crops, and grapes. Other uses include greenhouse-grown flowers and ornamentals, seed and seed-piece treatment, and professional turf management. Mancozeb is also registered for use in home vegetable gardens and on residential turf.

**Maneb** is currently registered for use on a wide variety of food and feed crops, including fruit and nut crops, vegetable crops, field and forage crops, grapes, field crop seeds, and others; ornamental plants in nurseries and greenhouses; and sod farms. There are no residential uses for maneb. (The only potential residential exposure to maneb is from residues remaining on turf transplanted from sod farms).

Changes expected are:

- For mancozeb—To be eliminated are of uses for foliar treatment for cotton, use in pineapple propagation, and use on residential lawns, athletic fields, and *Pachysandra*. (These uses are not eligible for reregistration.) Restrictions will apply to remaining turf applications. Home garden use of mancozeb on sweet corn will also be eliminated.
- For maneb—To be eliminated are uses on sweet corn, grapes, and some other crops.
- For both mancozeb and maneb—Applications to cut flowers and greenhouse-grown ornamentals will be limited to 20 per year. Use on sod farms will be restricted to reduce the potential for residential exposure to residues on turf transplanted from sod farms. The restrictions will reduce application rates and/or extend days-to-harvest (*pre-harvest*

*interval* or “PHI”) and require changes in logistics and restrictions of transplanting/installing the turf. The sod farm use will be deleted from wettable powder formulations of both ingredients.

Timeframes for the distribution and sale of products bearing old labels/labeling have not been established.

Electronic copies of the Mancozeb RED and all supporting documents are available in Docket # EPA-HQ-OPP-2005-0176 at  
<<http://www.regulations.gov>>.

Electronic copies of the Maneb RED and all supporting documents are available in Docket # EPA-HQ-OPP-2005-0178 at  
<<http://www.regulations.gov>>.

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## What is Pesticide Reregistration?

*Summarized from part III (Background) in “Mancozeb Reregistration Eligibility Decision” in the Federal Register, vol. 70, no. 248, December 28, 2005, pp.76828-72629.*

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the Federal Insecticide, Fungicide, and Rodenticide Act requires that pesticides which were first registered before November 1, 1984, be reregistered to ensure that they meet today’s more stringent scientific and regulatory standards.

To implement provisions of the Food Quality Protection Act of 1996 (FQPA), EPA considers the special sensitivity of infants and children to pesticides, as well as aggregate exposure of the public to pesticide residues from all sources, and the cumulative effects of pesticides and other compounds with common mechanisms of toxicity.

EPA develops any risk-reduction measures or regulatory controls needed to effectively meet current standards. EPA then reregisters pesticides that meet the safety standard of the FQPA and can be used without posing unreasonable risks to human health

or the environment.

When a pesticide is eligible for reregistration, EPA explains the basis for its decision in a Reregistration Eligibility Decision (RED) document.

For more information about EPA’s pesticide reregistration program, the mancozeb and maneb REDs, or reregistration of individual products containing mancozeb or maneb, please contact the Special Review and Reregistration Division (7508C), Office of Pesticide Programs, US EPA, Washington, DC 20460, telephone 703-308-8000.

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### **Hawaiian Place Names**

**Kamuela.** Name for the Waimea post office, Hawai’i, named for Samuel Spencer, a former postmaster, or, according to some, for Samuel Parker, son of the founder of the Parker Ranch. Avenue, Kapahulu section, Honolulu, named for Samuel Wilder King by his real estate partner, Frank James; drive, upper Nu’uanu, Honolulu, named for Samuel ‘Aikanaka Dowsett. Lit., Samuel.

From Place Names of Hawaii, a book by Mary Kawena Pukui, Samuel H. Elbert, and Ester T. Mookini. 1974. The University of Hawaii Press.

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*Mention of a trademark, company, or proprietary name in this newsletter 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. Pesticides and pesticides uses mentioned in this newsletter may not be approved for Hawaii, and their mention is for information purposes only, and should not be considered a recommendation. Read the pesticide's labeling to ensure that the intended use is included on it, and follow all labeling directions.

Special Local Need Labeling for Hawaii, *continued from page 2*

The list is updated once a month. It's in the PDF format. To download and view the list, click on the third link: **List of current Hawaii special local needs registered pesticides [sln.pdf]** as shown above.

If you have one of Hawaii's Special Local Need labeling, check its expiration date. It's not valid on or after that date. A copy of the updated version must be in your possession at the time you apply the pesticide to which it refers. An updated version with a new expiration date is sometimes issued to replace the expired one. The list will describe the latest version if there is one.

The list is *not* a substitute for the actual SLN labeling; it is just a list. A copy of an SLN labeling is usually available from the local dealer who sells the pesticide. Some pesticide makers post their SLN labeling at their own websites. Also, certain SLN labelings are available from "third-party registrants," which are the associations or government agencies who assume responsibility for registration of the labeling instead of the pesticide manufacturers.

For a full explanation of Hawaii's special local need labeling, review the leaflet "Special Local Need Labeling for Pesticides in Hawaii" available on the Internet at <[www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs08.asp#PesticideRiskReduction](http://www.ctahr.hawaii.edu/ctahr2001/PIO/FreePubs/FreePubs08.asp#PesticideRiskReduction)>.

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