

***DISCLAIMER** regarding this copy of Hawaii Department of Agriculture (HDOA) pesticide label (and attachments) for application of caffeine to control Caribbean frogs (*Eleutherodactylus coqui* and *Eleutherodactylus planirostris*) in the State of Hawaii:

The information on the following pages was faxed to the Hawaiian Ecosystems at Risk project from HDOA on 21 November 2001. Although the faxed pages of the label are stamped "draft," it was explained that this was the FINAL version of the text, but it must be marked "draft" until the name/etc. of the permittee is included on a final permit.

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If you have any comments or suggestions regarding this PDF document, please send them to **pt@hear.org**.

-pt/20011130

Restricted Use Pesticide
Due To High Acute Toxicity and Potential Hazard to Applicators

Section 18 Label for the Field Use of

Caffeine (99-100% a.i.) to Control

The Coqui and Greenhouse Frogs
(Eleutherodactylus coqui and E. planirostris)

**On Outdoor Ornamental Plants in Nurseries and Residential Areas,
Parks, Hotels & Resorts and Forest Habitats**

For Use in the State of Hawaii Only

For retail sale to and use only by Certified Applicators

Caffeine may be used in the State of Hawaii (Oahu, Kauai, Maui and the Island of Hawaii) to control the coqui and greenhouse frogs on outdoor ornamental plants in nurseries* and residential areas, parks, hotels and resorts, and forest habitats from September 27, 2001 through September 27, 2002 under a Specific Exemption granted by the U.S. Environmental Protection Agency under the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act as Amended.

Name of Participant	Address	
Certified Applicator's Number	Telephone Number Home: Work:	Product Identification No. 2001-3
Permit Number	Maximum Number of Intact 25 kg Kegs Allowed (Restriction on Purchase for Private Applicators Only – See attached sheet)	

Active Ingredient:

 Caffeine.....99%

Inert Ingredient.....1%

Total.....100%

KEEP OUT OF REACH OF CHILDREN

WARNING (AVISO)

First Aid

If Swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on Skin or Clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If Inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If in Eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

Precautionary Statements:

May be fatal if swallowed or inhaled. Causes substantial but temporary eye injury or skin irritation. Harmful if absorbed through skin. Do not get in eyes, on skin or on clothing. Do not breathe dust. For handling activities, use dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with N, P, R, or HE prefilter. Wear coveralls worn over long-sleeved shirt and long pants, chemical resistant footwear and socks, goggles or face shield and waterproof gloves. For cleaning equipment: Add a chemical resistant apron.

Personal Protective Equipment (PPE):

Applicators and other handlers must use the following PPE:

Coveralls over long-sleeved shirt and long pants, chemical resistant footwear plus socks, waterproof gloves, protective eyewear (goggles or face shield) and a dust-mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator with N, P, R, or HE prefilter. For cleaning equipment: Add a chemical resistant apron.

User Safety Recommendations:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

Environmental Hazards

Users must be careful in mixing and handling this chemical to avoid chemical spills. This product must not be mixed/loaded, or used within 50 feet of sinkholes or wells, including abandoned wells and drainage wells. Do not apply directly to bare soil except in potted materials. Do not over-irrigate. Do not apply this product in habitats of the endangered Oahu Tree Snails.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

AGRICULTURAL USE REQUIREMENTS:

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear: coveralls over long-sleeved shirt and long pants, socks and chemical resistant footwear, goggles or face shield, and waterproof gloves.

Storage and Disposal:

Storage: Store in a tightly closed container in a cool, dry, well-ventilated area that is inaccessible to children, pets, and domestic animals.

Container Disposal: Do not reuse container. Puncture and dispose in landfill.

Pesticide Disposal: If the product cannot be disposed of through labeled usage, dispose of pesticide as hazardous waste.

Sites of Application:

Caffeine may be applied to outdoor ornamental plants in nurseries and residential areas, parks, hotels and resorts, and forest habitats. **DO NOT** apply to any food or feed crops. Applications to turf or lawns are prohibited. Treated sites including outdoor ornamental plants in residential areas, parks, hotels and resorts must remain inaccessible to the general public and must be sealed off and restricted for at least 24 hours following spraying.

*Caffeine has been tested on the following ornamentals: Areca and fishtail palm, draceana, norfolk pine, and potted orchids. Phytotoxicity has been exhibited on

maidenhair & Boston fern, one variety of chrysanthemum, anthurium, bromeliads, and cigar flower (*Cuphea ignea*) at the 200-pound per acre rate. Due to the large number of species and varieties of ornamentals, it is impossible to test every one for safety. Prior to any large-scale application on any plants, the user should determine the safety of caffeine by testing a small number of the type of plants to be treated and observing the treated plants over a one to two week period for phytotoxicity. Caffeine has not been tested for long-term safety on plants. Some studies have indicated possible chromosomal damage, therefore, applications should not be made to high-valued plants.

Method of Application:

Apply foliar sprays with appropriate ground spray application equipment. **Thorough coverage of all foliage is necessary for good control.** Potted plant material may also be soil drenched. Applications can be made with ground equipment only. Aerial application and chemigation are prohibited.

Timing of Application:

Eleutherodactylus frogs are nocturnal and applications should be done when target species have emerged from cover. Applications may be done during daylight hours however, the frogs may have returned to their daytime retreats and control may not be as effective. Within one week after the initial application, monitor by walking down paths and aisles of infested areas at night and visually detecting frogs (see permit for detailed instructions). Monitor for frogs to ensure populations remain low.

Application Rate:

Use 8.4-16.7 pounds of 99-100% a.i. caffeine per 100 gallons of water and apply this to a minimum of 3600 square feet (equivalent to 100-200 pounds of product in 1200 gallons of water applied on at least one acre). When vegetation is dense and difficult to penetrate, use the higher amount of caffeine. Fill spray tank half-full with water, begin agitation, add caffeine, and continue filling remaining water into tank. Good agitation is necessary for caffeine to dissolve in water. Caffeine may take longer to dissolve in cold water. If cold water is a problem, dissolve caffeine in warm water, add to half-filled spray tank, and continue filling tank with remaining water while agitating. **Thorough spray coverage of all foliage is essential for good frog control.**

Maximum Number of Applications per Acre per Year:

Six (6) applications at the maximum rate of 200 pounds of product per acre. More applications may be made at a lower rate, but total amount of product shall not exceed 1200 pounds per acre per year.

Other Restrictions:

- DO NOT apply this product around pregnant women, children under the age of 2, children on medications for asthma or attention-deficit disorder, or individuals with a history of heart disease, high blood pressure, or circulatory problems.
- For residential areas, parks, hotels & resorts and forest habitats, treated areas are not to be entered for at least 24 hours following spraying. For agricultural operations, see "AGRICULTURAL USE REQUIREMENTS" section for restricted-entry interval and early entry requirements.
- All applicable restrictions on the Hawaii Department of Agriculture permit form will be followed.
- All applications must be made by a certified private or commercial applicator certified in an appropriate category.
- Adverse effects shall be reported to the Department of Agriculture immediately.
- All users must be registered with the Department of Agriculture to participate in this specific exemption program.

Users shall notify the department, in writing, at least five (5) days prior to their initial application. Notification shall consist of site(s) to be treated and the date(s) of application.

Recordkeeping Requirements:

Use records for each application shall be kept on forms provided by the Hawaii Department of Agriculture. Records shall include a map identifying each application site. Record forms shall be completed on a site by site basis. Record forms shall be submitted to the Department of Agriculture, Pesticides Branch (1481 S. King Street, Rm. 431, Honolulu, HI 96814) within six weeks following each application.

Failure to comply with the imposed restrictions and requirements may result in immediate termination of this specific exemption.

This specific exemption is scheduled to expire on September 27, 2002.

File Symbol No.: 01-HI-03

Page 5 of 5: The entire copy of this labeling must be in the possession of the user at the time of application.

SEE DISCLAIMER*

Questions and Answers on Caffeine Use to Control Caribbean Tree Frogs, Disclosure of Caffeine Risks and Authorization to Treat Property with Caffeine

Before any application of caffeine is made, please read this questions and answers sheet and sign the waiver statement.

How strong a solution will be applied?

Caffeine will be applied at a rate of approximately two hundred pounds per acre. A 2% caffeine solution has been demonstrated to be effective in controlling tree frogs. The strength of this solution is the equivalent of 55 times the amount of caffeine in a normal brew of coffee.

Will one application control the frogs?

One application of caffeine will reduce the number of frogs considerably. There will be frogs that survive the application. There will be others that move in from untreated areas. Since reapplication is expensive and may compound environmental concerns, once the frog population is reduced, other measures must be used to control the frogs.

What else controls the frogs?

Hot water drenches of 113 degrees Fahrenheit for 3 minutes in duration will control the frogs.

Exclude the frogs by burying shade cloth below the ground level and repairing all holes.

Eliminate frog habitat. Remove vegetation they prefer.

Make pesticides applications more effective by cutting tall plants to reduce over-spray and drift.

Small numbers of frogs can be collected by hand. Trimming plants so that the tops are easier to reach will aid in hand collection.

How does caffeine affect human health?

Caffeine is a stimulant. Care must be taken to avoid spraying areas used for water catchment systems, directly spraying the ground, and exposing other people since particles may be inhaled. Individuals particularly sensitive to caffeine are children under two years of age, individuals with hypertension, heart conditions, attention deficit disorder or who are pregnant.

SEE DISCLAIMER*

Are there other effects associated with caffeine?

Caffeine is persistent and leaves a white residue. It dissolves in water. Therefore, human exposure through water contamination is a concern. There are reports in publications that show that onion plant root tips exposed to a 0.01% caffeine solution had a 70% increase in abnormal cell divisions. There are also reports that fruit flies and other animals may be affected by caffeine too.

Why should these effects concern me?

High doses of caffeine have not been tested on a wide range of plants. Abnormal cell division may occur in treated plants. These effects may take time to become apparent and will take longer for slower growing plants to show abnormal effects. Caffeine should be tested on a small number plants to determine potential phytotoxicity. Observe the plants for abnormal growth before treating or authorizing the treatment of more plants.

Why should I control frogs?

Frogs present an ecological risk. They prey on the same insects consumed by insectivorous native birds and may be prey to larger alien predators, such as rats and mongooses. Their calls also annoy many people, especially when there are large numbers of frogs in an area competing to be heard.

One of the ways that Caribbean tree frogs move is with nursery plants and foliage. If you market plants or foliage and the buyer later finds tree frogs in plants you supplied, the buyer may reject with your shipment, cease business with you, or seek damages.

How should the caffeine solution be applied?

Apply the caffeine solution to plant foliage at night, after the male frogs begin calling. Make sure the area is well lit to prevent accidents. The solution may need to be warmed to keep the caffeine in solution.

Can I Apply Caffeine During Daylight Hours?

Application during the day should be avoided since frogs may be hiding in leaf litter. Direct application of caffeine to leaf litter provides a short cut to ground water. Caffeine is applied at high rates and is soluble in water. Application to the ground reduces opportunities for sunlight to degrade it and vegetation to intercept it. The volcanic soils of Hawaii make it likely that caffeine will quickly leach to ground water if measures are not taken intercept it.

SEE DISCLAIMER*

When Is It Safe to Enter Areas Treated with Caffeine?

Treated areas may be entered 24-hours following application. Entry before 24-hours is prohibited.

I have read and understand that caffeine solution used to control Caribbean tree frogs may be phytotoxic; it is a stimulant and individuals sensitive to stimulants may be affected by its use (it is applied at a dose equivalent to 55 times the caffeine in coffee); and it may contaminate ground water.

I am the fee simple owner/lessee or hotel/resort manager of the property identified below. I authorize the use of caffeine to control Caribbean tree frogs and agree to hold harmless the Hawaii Department of Agriculture, the Hawaii Department of Land and Natural Resources, BEI, United Horticultural Supply, and Their agents and employees for any consequences associated with the use of caffeine solution to control Caribbean tree frogs.

Name (Print)	Telephone Number <u>Home:</u> <u>Work:</u>	
Street Address		
Mailing Address (if different from above)		
Tax Map Key Designation of Property	Acreage or Square Footage of Property	
Signature		Date



EMERGENCY EXEMPTION RECORD OF APPLICATION FOR CAFFEINE TO CONTROL THE GREENHOUSE AND COQUI FROGS

Name and Address of Company		Name of Certified Applicator	
		Certification Number	
Application Rate	Date and Time of Application	Total Amount of Pesticide Used	Area Treated

Location of Treated Site(s). (Specify Block, Plot, Field or Shadehouse Number)
 (Attach Map and Identify Fields(s), if necessary)

Frog Population Monitoring (Indicate Number of Frogs per Subplot for Each Weekly Survey – Use additional sheet if necessary)

	Subplot 1	Subplot 2	Subplot 3	Subplot 4	Subplot 5
Pretreatment					
24 hours after treatment					
1 week after treatment					
2 weeks after treatment					
3 weeks after treatment					
4 weeks after treatment					

Specify Number and Species of Dead or Moribund Non-Target Animals.

Any Problems Handling the Pesticide Product? (ie. Difficult to Mix and Apply, etc.)

I hereby affirm that the aforementioned statement is true to the best of my knowledge and belief.

Print Name: _____

Signature: _____

Date: _____

Submit Original to HDOA



Department of Agriculture
STATE OF HAWAII

HAWAII DEPARTMENT OF AGRICULTURE PESTICIDES BRANCH

PERMIT TO APPLY CAFFEINE TO CONTROL THE COQUI AND GREENHOUSE FROGS

- 1) The caffeine shall not be distributed or given to any other person.
- 2) After an application of caffeine and upon expiration of the 24-hour restricted-entry interval, an inspector from the Hawaii Department of Agriculture (HDOA) and I shall collect any dead or moribund non-target organisms found in or near areas treated with caffeine.
- 3) If no inspector is available, I will collect these samples, place them in a plastic freezer bag, and freeze them. I will report any effects to non-target organisms to the nearest HDOA office within 48 hours.

Hilo office - 974-4143
 Maui office - 873-3557
 Kauai office - 274-3069
 Oahu office - 973-9401

- 4) To determine the effectiveness of caffeine, I will monitor the frog population. The same person must perform the monitoring for each population count. Subplots of 36 square feet will be randomly located in representative sections of the property. Each frog count will be done by walking through the subplot and counting frogs for five minutes. If the treated area is 0.01-0.30 acres, I will count three subplots. If the treated area is over 0.30 acres, I will count five subplots. The counts must be repeated in the same areas at weekly intervals for one month. These results must be reported on the record of application form and submitted to the HDOA within two weeks of the last frog count.

I understand and certify that the purchase and use of caffeine shall be restricted to the above conditions in addition to the restrictions on the Section 18 label.

Applicator's Name (Print)		Applicator's Signature	
Certification Number	Telephone Number	Tax Map Key Number	