

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



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DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

December 27, 2001

In reply, please refer to:
HEER OFFICE
01-402LA
Domus: 475

Mr. Sydney Ross Singer, Director
Institute for the Study of Culturogenic Disease
P.O. Box 1880
Pahoa, Hawaii 96778

Dear Mr. Singer:

This is in reply to your letter, which detailed your further concerns about the use of caffeine to control coqui frogs.

Upon further review, the Department of Health is more convinced that the use of caffeine to control coqui frogs will not pose a health risk to the people of Hawaii, because people are not likely to absorb caffeine from the caffeine spray or its residue.

As you know, caffeine can cause various adverse health effects once it enters the body. There are only three routes for caffeine or any other substance to enter a human body: by swallowing it, by inhaling it, or by absorbing it or having it injected through the skin. Our last letter of November 13, 2001, mentioned the EPA's restrictive spray zones which are intended to protect pregnant women, toddlers, infants, and other sensitive groups from swallowing or inhaling any of the caffeine spray.

The concentrated liquid solution of caffeine could irritate the surface layers of the skin or eyes by direct contact but would not be absorbed into the body. We disagree with your statement that caffeine "is easily absorbed through the skin." In order to pass through the skin, a substance would have to be nonpolar, uncharged, and able to dissolve in fats or lipids, since a cell membrane is made of lipids. However, caffeine is polar, charged, and cannot dissolve in fats or lipids. Therefore, whether caffeine is dissolved in water for the spray solution, or whether the solution dries and leaves caffeine crystals that may be touched with bare feet, caffeine that originates from this frog-control project cannot enter the body and affect internal organs or cause mutagenicity or teratogenicity.

Thank you again for your concern and interest in this matter.

Sincerely,
Gary Gill
Deputy Director
Environmental Health Administration

c: Robert Boesch, Pesticides Branch, Dept. of Agriculture