

**A RESOLUTION REQUESTING THE UNITED STATES DEPARTMENT OF AGRICULTURE AND THE HAWAI'I STATE DEPARTMENT OF AGRICULTURE TO DESIST IN THE PROPOSED RELEASE OF TECTOCOCCUS OVATUS (SCALE INSECT) ON THE ISLAND OF HAWAI'I TO REDUCE THE VIABILITY AND REPRODUCTION OF PSIDIUM CATTLEIANUM (STRAWBERRY GUAVA).**

**WHEREAS**, the strawberry guava (*Psidium cattleianum*), or waiawi, was introduced over 180 years ago to the Hawaiian Islands and the common guava (*Psidium guajava*) was introduced later. Both species are used by residents and wildlife for food. The common guava is now a commercial crop on the Island of Hawai'i, and both the common and the strawberry guava are used to produce juice, jams, and jellies; and

**WHEREAS**, the strawberry guava is a widespread tropical weed in forests of Hawai'i, common between sea level and approximately 3900 ft (occasionally to 5250 ft). This invasive plant has the potential to invade an estimated 47 percent of the land area of Hawai'i Island and already infests thousands of acres of forest on all the major Hawaiian Islands forming dense thickets up to 30 ft. in height and suppressing native species, including many that are rare and endangered. The strawberry guava reproduces sexually and asexually through shoots; and

**WHEREAS**, *Tectococcus ovatus* Hempel (Homoptera: Eriococcidae) is a small scale insect that creates galls on young leaves of the strawberry guava. The mobile stage of *Tectococcus* is the newly-hatched nymph or crawler. Crawlers typically move to new leaves at the stem tip where they begin to feed and form galls. *Tectococcus* can reproduce continuously, with a generation time of 6-10 weeks; and

**WHEREAS**, the Institute of the Pacific Islands Forestry (IPIF) of the U.S. Department of Agriculture (USDA), investigated potential biocontrol agents and selected *Tectococcus* believing it could reduce the number and vitality of the strawberry guava, and that it could tolerate the full range of strawberry guava habitats in Hawai'i because *Tectococcus* has a native range that includes wide variation in temperature and humidity; and

**WHEREAS**, the IPIF evaluated *Tectococcus*, both in its native range and under quarantine conditions in Hawai'i to reduce the risks to non-target species. IPIF has petitioned the State of Hawai'i Department of Agriculture for permission to release *Tectococcus* in Puna's 'Ōla'a Forest Reserve as a new biological control agent against strawberry guava; and

**WHEREAS**, there is no guarantee that *Tectococcus* will continue to consume only the strawberry guava and not spread to the ordinary guava or to other related native Hawaiian species once it is released in the environment; and

**WHEREAS**, in Hawai'i, the family Myrtaceae is represented by 49 species in nine genera, including eight native species. The dominant tree of native Hawaiian forests is 'ohi'a (*Metrosideros polymorpha* Gaud.) and it is related to the strawberry guava and numerous introduced timber trees, including Eucalyptus species, are distant relatives; and

**WHEREAS**, *Tectococcus* will not kill the strawberry guava, but it will reduce the health of the tree and its capacity for fruit production by creating unsightly galls on the leaves that house the female *Tectococcus*, protecting the female from assault from predators and insecticides; and

**WHEREAS**, despite the quarantine and research, the IPIF cannot guarantee that *Tectococcus* is host specific to the strawberry guava outside of quarantine conditions, and only "expects" *Tectococcus* to: 1) be host specific, 2) to spread gradually as an infestation on the target plant reaching damaging

levels within a few years at each release site, 3) reduce vitality, growth rate, and reduce fruit and seed production of the strawberry guava over a number of years, and 4) that the infestation of *Tectococcus* will protect the Hawaiian forests by suppressing the strawberry guava and thereby allowing the native forest to regenerate; and

**WHEREAS**, each female *Tectococcus* remains enclosed in a gall throughout her life, producing up to several hundred eggs in a matrix of wax filaments, which helps the eggs and crawlers to float on the wind, and each female is parthenogenic (reproducing asexually), which increases the likelihood of producing crawlers that spread the infestation; and

**WHEREAS**, a mass infestation of gall-bearing strawberry guava trees with lowered vitality in our forests, orchards, yards, hedges, and along our roads will be unsightly. The lowered viability of the strawberry guava trees may encourage other opportunistic insects and disease to attack the strawberry guava and may spread those opportunistic insects and disease throughout the native forest, to other horticulturally significant trees, and to the orchards of commercial guava growers and residents' personal fruit trees; and

**WHEREAS**, the U.S. Forest Service, Pacific Southwest Research Station, in its brochure, "*Repelling Invaders*" states that "Despite their potential usefulness, biocontrol agents are potentially hazardous", and further that "biocontrol agents introduced to control invasive blackberry also attacked the Hawaiian raspberry"; and

**WHEREAS**, the draft Environmental Assessment indicates that many commercial crops (tomatoes and other vegetables, most fruits, coffee, protea and orchids) grown on Hawai'i Island that are constantly attacked by other species of scale have not been tested to determine whether *Tectococcus* will preferentially choose to eat those plants over the strawberry guava; and

**WHEREAS**, the draft Environmental Assessment does not indicate whether *Tectococcus* can or may hybridize with other scale species and create a "super-scale" capable of eating many of our agricultural crops; and

**WHEREAS**, despite improved research, the beliefs and expectations of the IPIF cannot be guaranteed, and the IPIF states in its publication, *Biological control of weeds in Hawai'i: History and Prospects*, that "...while biological control can effectively reduce the impact of an invasive species, it rarely results in its eradication...", and further that "...the risk of direct impacts on plants other than the target host is greatest in closely related species..." ; and

**WHEREAS**, despite the current research, the majority of the residents and farmers do not want to chance the possibility of another scale insect, specifically, *Tectococcus ovatus* (Brazilian scale insect), being released into the environment to attack the strawberry guava that may not be host specific and may spread to other types of trees or that it will only weaken the strawberry guava encouraging opportunistic pests and disease to spread through our forests attacking other species of native Hawaiian trees or that *Tectococcus* may attack the agricultural community's commercial orchards; now, therefore

**BE IT RESOLVED BY THE COUNCIL OF THE COUNTY OF HAWAI'I** that the introduction of the biological control insect, *Tectococcus ovatus*, for the suppression of the strawberry guava (*Psidium cattleianum*) is discouraged anywhere on the Island of Hawai'i; and

**BE IT FURTHER RESOLVED** that the Hawai'i County Council requests that the Environmental Assessment for the release of *Tectococcus ovatus* include the objections of this legislative body including the minutes of the Public Works and Intergovernmental Relations Committee of the Council and all County Council meetings on this subject; and

**BE IT FINALLY RESOLVED** that the County Clerk shall forward certified copies of this Resolution to the Honorable Mayor Harry Kim; the U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station (c/o Rocky Mountain Research Station, 249 W. Prospect road, Ft. Collins, CO 80526-2098); USDA Forest Service, Institute of Pacific Islands Forestry, (P.O. Box 236, Volcano, HI 96785); Plant Pest Control Branch, Hawai'i Department of Agriculture (1428 South Kona Street, Honolulu, HI 96814-2512); and Plant Quarantine Branch, Hawai'i Department of Agriculture (1849 Auiki Street, Honolulu, HI 96819-3100).

Dated at \_\_, Hawai'i, this \_\_ day of \_\_, 2008.

INTRODUCED BY:

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COUNCIL MEMBER, COUNTY OF HAWAI'I

COUNTY COUNCIL

ROLL CALL VOTE

AYES NOES ABS EX

County of Hawai'i

FORD

Hilo, Hawai'i

HIGA

I hereby certify that the foregoing RESOLUTION was by

HOFFMANN

IKEDA

the vote indicated to the right hereof adopted by the COUNCIL of the

JACOBSON

County of Hawai'i on

\_\_\_\_\_.

ATTEST:

NAEOLE

PILAGO

YAGONG

YOSHIMOTO

Reference: \_\_\_\_\_

COUNTY CLERK CHAIRMAN & PRESIDING OFFICER

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RESOLUTION NO. \_\_\_\_\_