ADAP
Agricultural Development in the American Pacific

Agricultural Pests of the Pacific
ADAP 2000-8, Reissued February 2000
ISBN 1-931435-11-1

Hemispherical Scale (*Saissetia coffeae* [Walker])

Donald Nafus, Ph.D., Associate Professor of Entomology, University of Guam

Hemispherical or helmet scale (*Saissetia coffeae* [Walker] [Homoptera: Coccidae]) is a yellow-brown to dark brown scale found on leaves, on small twigs, shoots, and fruits. The scale is shaped like a half-sphere, being very dome-shaped with the base varying from circular to elongated. It is between 1.5 and 3 millimeters (mm) long when mature. Up to 600 eggs are laid under the female. Newly hatched nymphs are greenish brown and flattened. The nymphs move around the plant and find a place to settle. Nymphs undergo three molts. They normally remain attached to the spot where they settle but, while immature, may move to a new site if necessary. Adult females are immobile. Males have never been found. The life cycle is relatively long, taking up to six months for one generation.

The scales feed on sap and secrete abundant honeydew on which sooty mold grows. This turns the leaves black and blocks photosynthesis. Some of the hosts are guava, coffee, cotton, eggplant, okra, citrus, soursop, sweetsop, mango, tea and banana. It also has several wild hosts.

The scale is found throughout the tropics and in some subtropical areas as well. It is present in Hawaii, the Marianas, and most other islands in Micronesia except Kosrae and some of the Caroline and Marshall atolls.

Hemispherical scales

Control

This scale is usually heavily parasitized. In Hawaii it is attacked by at least six species of parasitoids including *Encyrtus infelix, Scutellista cyanea,* and *Aneristus ceroplastae.* Control of ants, which frequently tend and protct scales, will help reduce scale populations by encouraging parasites. Fertilize (but do not over fertilize) or mulch trees to increase resistance to scales. Branches which are heavily infested may be cut off and put on the ground. This will allow any parasites to emerge, but the scales will not be able to move to a live branch and will die. White oil can be used as a drenching spray to kill young scales, but it is not effective against the tough-skinned adults. Two treatments at three- to four-week intervals will be necessary. If the use of chemicals is required, consult an Extension Agent at your local land grant institution. On Guam, you may also consult the Guam Fruit and Vegetable Pesticide Guide for current recommendations and permissible uses.

For Further Information:
ADAP
American Samoa Community College (684) 699-1575 - fax (684) 699-5011
College of Micronesia (691) 320-2462 - fax (691) 320-2726
College of Micronesia (FSM) (691) 320-2480 - fax (691) 320-2479
College of the Marshall Islands (692) 625-3236 - fax (692) 625-4699
Palau Community College (680) 488-2746 - fax (680) 488-3307
Northern Marianas College (670) 234-9023 - fax (670) 234-0054
University of Guam (671) 735-2002 - fax (671) 734-5600
University of Hawaii (808) 956-8140 - fax (808) 956-6967

Funded by the United States Department of Agriculture Cooperative State Research, Education and Extension Service Grant 99-38826-7854
ADAP Home Office - College of Tropical Agriculture and Human Resources
3050 Maile Way, Gilmore Hall 213, University of Hawaii at Manoa
Honolulu, HI 96822 USA www.adap.hawaii.edu/adap - adap@hawaii.edu
The Pacific Land Grants and the U.S.D.A. are Equal Opportunity/ Affirmative Action Institutions

Publishing and conversion into digital format made possible by funding from USDA Western SARE PEOPLE Project, Utah State Subcontract #C019211, Project #EW98011.

Keywords: helmet scale, Hawaii, Mariana Islands, Micronesia, biological control

Reviewing/Updating by Ross Miller, Ph.D.; Layout/Publishing by M.J. Denney