



Hawai'i Invasive Species Council

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HISC eNews, Vol. 4, No. 4

April 2010

From small family farms specializing in tomatoes to multi-million dollar operations growing a variety of vegetables, flowers, coffee and livestock, Hawai'i agriculture, horticulture and ranching industries face daunting challenges. Added to problems of ever tightening food safety regulations, export restrictions and enough irrigation to maintain sustainable agriculture looms the increasing risk of invasive species.



Fireweed may have been accidentally introduced in hydro-mulch from Australia in the early 1980s. It is toxic to livestock. —photo by Forest & Kim Starr

Particular attention is paid to host specificity, making sure a pest's natural predator does not switch to another host. An early success story is the late 1970s HDOA release of the metallic blue ladybug, a natural enemy of the spiraling whitefly, which attacks banana, avocado and papaya. A recent success story is the *Eurytoma* parasitic wasp that feeds on the larvae and pupae of the *Erythrina* gall wasp, which preys on the native wiliwili trees.

For about 7,500 farms covering well over a million acres across the state, these operations face about 20 new insects and myriad plant diseases each year. The naio thrip, possibly from Australia; nettle caterpillar from Taiwan; little fire ant from South America; black twig borer from Asia; coqui frog from Puerto Rico; and toxic fireweed from Madagascar are among the better-known pests plaguing Hawai'i farmers and ranchers. Even the Big Island's international honey and queen bee industries, which generate 99.5% of all monies from Hawai'i bees, have fallen victim to the spreading voracious varroa mite.

HISC's Research and Applied Technology Working Group contributes to prevention and management efforts of invasive species in Hawai'i. It provides R&T grants to state and federal researchers and works in close cooperation with the Hawai'i Department of Agriculture, funding the 2009 HDOA hire of renowned ant specialist Cas Vanderwoude to develop new control methods for homeowners and affected industries. HISC allocated HDOA \$600,000 to help retain quarantine inspectors slated for layoffs.

HISC R&T grants aim at development and implementation of new and transferable chemical, mechanical and biological technology for large-scale treatment of priority invasive species, such as marine invasive algae, coqui frogs and ants. Funded scientists are also involved in off-site exploration and screening for high impact natural enemies targeting established invasive species already present in the state, such as miconia, the wiliwili gall wasp, nettle caterpillar and fireweed.

At home HDOA's plans for a joint-use inspection facility at the Honolulu International Airport were slowed when \$5 million in state funds were lost after a State Department of Budget and Finance review of the Department of Transportation's uncompleted contracts. HDOA quarantine inspectors have been cut from 16 to seven with furloughs.

Prior to the cuts, inspectors were intercepting more than 100 infested commodities and parcels each month. The average interception is now down to 40 per month.

Dean Okimoto, president of the Hawai'i Farm Bureau, says island farmers are concerned that the HDOA maintain enough quarantine inspectors to keep out damaging invasive crop pests.

“We need a place at the airport for inspection,” Okimoto said. “We should be spending money on stopping invasive species now because it costs hundreds of millions of dollars in the long run. By then, we can't eradicate, just control. We need rapid response because it costs way less.”



Call the Pest Hotline to report invasive pests.