PHYTOSANITARY IRRADIATION: PPQ DOMESTIC IRRADIATION PROGRAM

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Hawaii has been a beneficiary of numerous PPQ domestic programs over the decades. The APHIS PPQ Website currently features the Coconut Rhinoceros Beetle which was recently detected by PPQ field staff on Oahu. A program is now underway to delimit and eradicate the infestation and to this end, PPQ has been a major support to the State of Hawaii with staff, resources and technical expertise from incident command to trapping. This is in keeping with PPQ's mandate to protect U.S. agriculture and environment against pest and disease threats, an increasingly difficult task with world trade and the movement of goods worldwide.

This presentation highlights one particular domestic PPQ program germane to the topic of this meeting on post-harvest treatment and irradiation. Without the assistance of PPQ, irradiation quarantine treatment would not have been possible for Hawaii, the only state under a federal quarantine not only for Tephritid fruit flies but a host of other pests that for decades have stifled diversified agriculture in Hawaii and limited access to export market for our growers.

Hawaii has two fully operational commercial quarantine irradiators, one on the Island of Hawaii, the other on the Island of Oahu, for the treatment of tropical fruit, sweet potato, and a variety of leafy vegetables and specially products for export to U.S. mainland markets.

For Hawaii, the seminal moment for the application of the technology for quarantine treatment was not the enabling regulation in 1989 that approved the use of irradiation as quarantine treatment for Hawaii fresh papaya, but rather the USDA PPQ meeting in Florida (Gainesville) in 1994, where PPQ announced that the agency would be willing to consider certifying commodities as meeting quarantine treatment based on documentation and other quality/quality control measures.

The 1989 Papaya Regulation for Hawaii was published with the understanding that quarantine action would be taken if live insects were found upon inspection. That clarification of the rule casts serious doubt on the useful application of irradiation treatment since a pest treated with irradiation, albeit sterile, could survive the treatment for some period of time, therein, find way into export markets as a live pest of concern to port-of-entry inspection.

Following the Gainesville meeting, PPQ considered and approved a Hawaii request to allow movement of untreated tropical fruit to commercial irradiators in Chicago (and later New Jersey) for quarantine treatment in the absence of a commercial irradiator in Hawaii. Multiple shipments were approved after an initial test shipment in April 1995, all under limited Permit under quarantine security. The shipments were made to test the resolve of Hawaii growers to provide a quality product to specific U.S. mainland markets and the feasibility of use of irradiation as the enabling quarantine treatment for those shipments. This led to the construction and certification of Hawaii's first quarantine treatment irradiator in August 2000, five years later.

The program also brought to head the "wiggler issue" for Hawaii when a consignment of papaya treated in Chicago arrived in San Francisco with live fruit fly larvae. California's decision to reject the shipment was preempted by PPQ, an action that resulted in a compromise plan with California releasing nearly 200 cartons to markets and sending 50 cartons (i.e., 500 pounds of papaya) back to Hawaii for inspection and "rear-out" by USDA, Agricultural Research Service (ARS) and PPQ in Hawaii. Not a single larva emerged to successfully pupate from the 500 lbs. of papaya in the rear-out. This massive effort on the part of PPQ and ARS in Hawaii helped paved the way for the acceptance of irradiation quarantine treatment by growers in Hawaii and the markets, in turn, of critical importance to Hawaii's production.

PPQ domestic programs continue to advance the technology through CPHST treatment, quality control and dosimetry support and PPQ on-site inspection programs.