

production in Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands. According to the country notes for the data we used from the Food and Agriculture Organization (FAO) of the United Nations, the data for U.S. exports and imports includes Puerto Rico and the U.S. Virgin Islands. According to these data, however, there were no U.S. exports.

Comment: The hot water dip treatment should be approved only for use against the Mexican fruit fly (*Anastrepha ludens*) because the research performed by the U.S. Department of Agriculture's Agricultural Research Service (ARS) was limited to that species. Prior research has shown that the West Indian fruit fly (*A. obliqua*) is more heat tolerant than the Mexican fruit fly. No information was provided on the heat tolerances for other important *Anastrepha* species, including *A. fraterculus*, *A. striata*, and *A. serpentina*.

Response: While the research that ARS conducted was limited to the Mexican fruit fly, we disagree that the treatment of mangoes should be approved only for the Mexican fruit fly. The genus *Anastrepha* contains at least 150 species or strains, and it would be impractical for us to test them all, especially when other scientific research would preclude the need for such testing. The specific fruit flies of concern in Mexico and Central America are *A. ludens*, *A. obliqua*, *A. serpentina*, *A. striata*, and the Mexican and Central American populations of the *A. fraterculus* species complex. In Puerto Rico, the U.S. Virgin Islands, and the West Indies, the fruit flies of concern are *A. suspensa* and *A. obliqua*. We have carefully reviewed the available research on this topic and have determined that the hot water dip treatment can be used to mitigate the risk of fruit flies associated with rounded mangoes weighing from 701 and 900 grams from Mexico, Central America, Puerto Rico, the U.S. Virgin Islands, and the West Indies.

We agree with the commenter that an earlier study (Sharp *et al.* [1989a. J. Econ. Entomol. 82(6) 1657–1662]) had shown the West Indian fruit fly to be more heat tolerant than the Mexican fruit fly. These results were likely influenced by the stage of larva used in the study. It is likely that early third-instar larvae were used instead of late third-instar larvae; late third-instar larvae appear to tolerate heat better than the younger larva. In a subsequent study using a number of isolates and late third-instar larvae, ARS research concluded the Mexican fruit fly to be

consistently more heat tolerant than the West Indian fruit fly, especially when heat treated for 75 minutes or longer. These results became the basis for their later research on large mangoes.

Comment: The recurring breakdown in treatment compliance at several hot water treatment facilities in Mexico reinforces the need for APHIS to upgrade its oversight and monitoring of hot water dip treatments and other similar treatments. APHIS should provide timely written reports on compliance to States and other interested parties.

Response: We believe that our oversight and notification procedures are adequate and responsive. APHIS routinely maintains oversight of treatment programs. For mangoes produced in Mexico for export to the United States, we monitor trapping and controls in orchards, cut and inspect fruit prior to treatment, directly supervise all treatments, and inspect the mangoes upon their arrival at ports of entry. Further, box marking requirements allow us to trace mangoes back to their production area. When pests are intercepted following treatment, APHIS investigates possible causes and responds appropriately. Our response includes increasing our oversight for as long as necessary and, depending on the specific situation, could extend to rejecting shipments or terminating the preclearance program at a treatment facility. Although we do not routinely notify States and other interested parties of all compliance issues, we notify appropriate representatives of significant compliance problems, including when live fruit flies are found.

Comment: During 2 consecutive years (2001 and 2002), State personnel in California intercepted live *Anastrepha* larvae in mangoes imported from Mexico that were certified as having been treated according to the protocol. California officials have not yet been informed of the reason for this program failure.

Response: Our investigations into the fruit fly interceptions in 2001 and 2002 in treated mangoes from Mexico revealed two possible explanations for the presence of larvae in the mangoes. First, we believe the fruit may have been hydrocooled immediately after the authorized hot water treatment, with no adjustment to the dip time. Recent research conducted by ARS indicates that extending the dip time by 10 minutes for mangoes that will be hydrocooled within 30 minutes of removal from the hot water immersion tank compensates for any reduction in efficacy when hydrocooling is used.

(Copies of the ARS report are available by contacting the person listed under **FOR FURTHER INFORMATION CONTACT.**) We believe that the 10-minute extension of the dip time for mangoes that will be hydrocooled within 30 minutes of their removal from the hot water immersion tank addresses past failures associated with hydrocooling.

The second possibility is that the mangoes were misrepresented as originating from a registered orchard. If the mangoes did originate from an unregistered orchard, then it is possible that they originated from an orchard with an uncontrolled population of fruit flies, which could lower the effectiveness of the hot water dip treatment. In response to this possibility, APHIS increased its monitoring, rejected shipments, and terminated the preclearance program at the particular treatment facility until APHIS determined that appropriate remedial actions had been taken to allow the treatment facility to resume its operation.

Comment: Is irradiation approved as an alternative treatment to the hot water dip treatment, or is additional research necessary to determine whether larger mangoes can undergo irradiation as an alternative to the hot water dip treatment?

Response: Irradiation treatment could be used as an alternative to the hot water dip treatment for mangoes if the applicable provisions of the regulations in 7 CFR 305.2 have been met. According to § 319.56–2(k) of “Subpart—Fruits and Vegetables,” treatment by irradiation in accordance with § 305.2 may be substituted for treatments in the PPQ Treatment Manual for the mango seed weevil *Sternonchus mangiferae* (Fabricius) or for one or more of the following 11 species of fruit flies: *A. fraterculus*, *A. ludens*, *A. obliqua*, *A. serpentina*, *A. suspensa*, *Bactrocera cucurbitae*, *B. dorsalis*, *B. tryoni*, *B. jarvisi*, *B. latifrons*, and *Ceratitis capitata*. Because the ARS conducted exhaustive research to determine appropriate commodity-generic irradiation dose rates for certain pests, additional research would not be needed in order for irradiation to be used as an approved treatment for rounded mangoes weighing from 701 to 900 grams.

Miscellaneous

In addition to the changes discussed previously, we are also amending § 318.58(a) to replace the obsolete scientific name “*A. mombinpraeoptans* Sein” with “*A. obliqua*.”

Therefore, for the reasons given in the proposed rule and in this document, we