

Chilled vs non-chilled Black Pupae Strain Mexican Fruit Flies (*Anastrepha ludens*) from Guatemala

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The Mexican fruit fly (*Anastrepha ludens*) is an invasive, non-native insect pest that infests citrus groves in Central and South America and a reoccurring pest in the lower Rio Grande Valley region of South Texas. To prevent Mexican Fruit Flies from causing serious damage to citrus, the USDA APHIS PPQ along with Texas Department of Agriculture established a Preventive Release Program for mass rearing, irradiating, and aerial releasing of sterile Mexican fruit flies using Sterile Insect Technique (SIT). A critical component of this program is the shipments received of the Black Pupae Strain (BPS), a sterile strain of pupae reared in Guatemala. Shipment tests were conducted on BPS pupae that were chilled prior to transport, at $50 \pm 4^{\circ}\text{F}$ against BPS pupae that were not chilled. The pupae mass (mg), fly emergence (%), flight ability (%) and packing times were compared against the Willacy strain that is produced at the USDA APHIS PPQ Mexican Fruit Fly Mass Rearing Facility. There is no significant difference in pupae weight (mg), fly emergence (%), flight ability (%), and packing times between the chilled versus non-chilled BPS pupae shipped from Guatemala. Humidity in the shipment bags varied, but there was no significant difference in the quality control values between the different packing and shipping styles. Shipment tests on chilled versus not chilled pupae have been ongoing since October 3, 2014. We continue to exam for potential effects of shipping variation on the efficacy of mass-rearing fruit flies.