Comparison of Fruit Sanitation to IPM Program

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A field trial was conducted at the Lalamilo research station (Fig. 1) and a commercial farm in Lalamilo Farm lots (Fig. 2) to compare all IPM techniques combined versus sanitation only as fruit fly control measure. Two augmentoria were used to rear out melon flies from the fruit culled in each crop (Fig. 1). Although the spacing between rows was not identical in the two fields, the number of plants per row was equivalent and yields are reported per plant as well as totaled. The commercial crop received GF120 applications, cuelure traps, protein bait traps, sterile melon fly males, *Psyttalia fletcheri* parasitoid wasps and sanitation. The research station received only sanitation, and the nearest sterile insect releases were over 1000 yards distant from the farm. Any damaged fruit encountered in either crop was removed and placed in the appropriate augmentorium. Damage other than that caused by fruit flies was common. Anthracnose, boring beetles and birds were the major problems.

Yields were significantly different (Fig. 3) and this was related to the onset of damage. Culled fruit began to appear very early in the Lalamilo station, and was nearly double the fruit loss that occurred in the commercial field (Fig. 4). However, very little of that damage was actually fruit fly infestation, whereas only 9 flies were reared from the commercial farm culls and only 5 flies from the station culls. This could be due to the diseased condition of many culled fruit, which would lead to poor fruit fly emergence.

However, after harvest was completed the commercial field experiences a large increase in wild flies caught in the cuelure traps. This may have been due to late infestation of the fruit, or flies migrating into the fields from other areas. The take home message is that vigilance during the fruit development of the fruit is critical, but it is not the end of the story. The crop can be a prime attraction and potential fly breeding area after harvest is complete. It is important to remove the discarded fruit from the fruit flies’ reach.
Kamuela Catch Per Trap Day Using Cue-Lure
1/13/03 & 1/21/03