

*Project Concluded: Final Report*

## **Survey for Woolly Whitefly in Kern County**

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Woolly whitefly is an established pest of citrus in southern and coastal citrus production regions of California. In those areas, it is naturally suppressed below economically damaging levels by parasitic wasps. Woolly whitefly has recently been introduced into the southern San Joaquin Valley in residential areas in northeast Bakersfield, Kern County. It appears, however, to have become introduced without the parasitic wasps known to control it in other portions of the state. As a result, woolly whitefly is quickly becoming established and spreading throughout urban areas of Bakersfield, and if left unabated has the potential to move into citrus production regions of Kern and neighboring counties.

Woolly whitefly gets its name from the white waxy and sugary excretions produced by the nymphs. Nymphs feed by sucking plant juices from the undersides of the leaves. In the process of feeding, some of the sugars crystallize and produce a sugary crust on the undersides of the leaves, while the more liquid of excretions fall towards the ground as honeydew. This excretion can completely cover leaf and fruit surfaces and acts as a substrate for the growth of black sooty mold.



*Woolly whitefly on the undersides of citrus leaves in Bakersfield.*

The purpose of this research project was to determine the threat of woolly whitefly to citrus production regions in the San Joaquin Valley. To do so we conducted quarterly surveys to track the spread of woolly whitefly infestations in Kern County. Second, we sampled infested leaves during each of these surveys to determine if any biological control by parasites occurred naturally. Lastly we began an extension and education program about this pest to make farmers aware of its presence, and alerted homeowners of ways to suppress this pest in residential citrus plantings.

The results of woolly whitefly surveys are shown in the four maps in Figure 1. In August 2004 the infestation was primarily in the northeast portions of Bakersfield along the bluffs. This was considerable spread from the regions around Bakersfield College where this pest was first thought to be introduced some time in 2003. By December 2004 the infestation spread to the south and west into the heart of downtown Bakersfield and slightly up into Oildale to the northwest. By March 2005 and June 2005 there was little change in the current infested zone from the preceding December.

Then, by November 2005 woolly whitefly spread over 6 miles to the west into areas of Rosedale. It is interesting to note, however, that there was very little movement to the north and east. Lack of movement to the north is due to a lack of citrus past the bluffs and oilfields. To the east, however, are the closest commercial production regions which to date have remained uninfested.

Quarterly surveys to detect the natural occurrence of parasitic wasps for control of woolly whitefly were completely negative. This suggests that efforts to move the parasites from infested areas of southern California into regions of the San Joaquin Valley may be a viable method for controlling this pest in the future.

*Contact Citrus Research Board for figure.*