

Project 85 Impact of Citricola Scale on Citrus Yield

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Citricola scale (*Coccus pseudomagnoliarum*) has become a serious pest of San Joaquin Valley citrus as growers shifted from using organophosphate insecticides to softer pesticides such as the insect growth regulator Esteem for California red scale and the fermentation product Success for citrus thrips control. Citricola scale is not controlled by these insecticides and biological control of citricola scale is ineffective in this region. Growers have responded by using the organophosphate Lorsban every 2-3 years to control citricola scale. Surveys of citricola scale in 2006 indicate that a number of populations are developing resistance to Lorsban. Recently registered reduced risk (buprofezin, acetamiprid) insecticides are somewhat less effective in controlling citricola scale than chlorpyrifos and a clear understanding of the threshold level of citricola scale that causes damage to citrus is needed for effective use of these insecticides. Two orange orchards at LREC will be treated with various rates of chlorpyrifos insecticide to create varying levels of citricola scale. Densities of citricola scale will be correlated with citrus yield, fruit size, fruit weight and sooty mold over a three-year period to determine the treatment threshold. In a separate field, we will determine the relative efficacy and economics of the use of acetamiprid and buprofezin compared to the organophosphate chlorpyrifos.