California Red Scale  
Eradicated in Yuma County Again  

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ABSTRACT

For the second time in two decades, the Yuma County Citrus Pest Control District has been successful in eradicating an infestation of California Red Scale in a commercial citrus grove within its boundaries. The first infestation, found in 1973, was declared eradicated in 1980. The latest infestation was found in 1984 and will be eradicated in record time. Eradication can be declared early next year after the third series of three sprayings each.

INTRODUCTION

In December, 1984, 81 lemon trees in a block in Yuma Valley were found infested with California Red Scale. Later, 7 more trees were found infested in an adjacent block to the west and 6 more were discovered in an adjacent block to the north. All 3 of these blocks were placed under quarantine by the Arizona Commission of Agriculture and Horticulture (ACAH) and designated for spraying. The quarantine required that all fruit picked from these blocks be fumigated, that the area around the trees be kept free of weeds, and that the skirts of all of the trees be pruned so as to not touch the ground.

MATERIALS AND METHODS

Immediately after the discovery of red scale in the Yuma Valley, the infested trees were skeletonized by the grower and the removed foliage burned. This was not required by the district, but the board of directors did suggest it. Because the company which owned the grove wanted the infestation eradicated as soon as possible, they cooperated fully with the skeletonization. This opened up the tree so that the sun and dry air could reach the red scale and the spray would penetrate better. The trees were whitewashed to prevent sunburn and disease problems. The first spraying used Malathion 8E and 2% spectrum 415 oil. The spraying was done with a hand rig so that the trees could be saturated with 17 to 20 gallons of material per tree. Two subsequent sprayings were done in a similar manner. The second spraying, 30 days following the first, was with Supracide. The final hand spraying for the season was 30 days later using Sevin, a spreader sticker, and 2% oil.

In late spring, when red scale crawlers are expected to emerge, parathion was applied to the spray zone by an oscillating boom rig. This application is not required by the quarantine, but the district felt that this application, when the scale is most vulnerable, is another tool to hasten eradication.

The infested area was covered with pheromone traps, a trap in each fourth tree in each fourth row. Not one male was found during the first summer after the spraying and skeletonization described. Because of this, the ACAH waived the requirement that the fruit be fumigated when picked that fall.

In the fall of 1985, another series of sprayings was performed using the same methods and materials as previously used. The parathion spraying with the oscillating boom rig was also repeated in the spring of 1986. Trapping during the summer this year again produced no scale. The third and final series of 3 sprayings was begun this fall.
RESULTS AND DISCUSSION

California Red Scale was first found in a commercial citrus grove in Yuma County in 1973. Early efforts to eradicate the pest were insufficient because only the infested trees and the eight immediately around them were sprayed. When red scale was found in two other groves near the first, all-out eradication efforts were instigated.

In the original grove, the entire block of 19 acres was designated for spraying. In the other groves, which were much larger, an area 600 feet beyond the last infested tree was placed within the spray zone. The spray program and cultural practices similar to that now required was used, except some chemicals now in the program were not available at that time. With the use of pheromone traps, we found a fourth infested grove within a half mile of the others. The same regimen was begun on this grove.

The quarantine called for the spray program to continue until 3 series of spraying had been completed after the last living scale had been found. On July 15, 1980, the ACAH voted to repeal the quarantine against that first infestation.

The success of our district in eradicating red scale can be attributed to several factors. First, the district was set up well before the problem occurred and money was available when it was needed. Second, cooperation between those involved, including the owner of the property, has been excellent.

The ACAH has made inspections, helped with trapping and sticky-board reading and continued surveillance for red scale within the cities and towns. Also, the inspection stations, operated by the ACAH, are a line of defense to minimize new infestations from entering the state. The district offices of the ACAH perform nursery inspections to find infested plants if they do enter and either treat them or send them back out of state. Another reason for our success has been the availability of pheromone traps to locate infestations before they get out of hand.

Our district is fortunate to have twice eradicated California Red Scale from the area. To our knowledge, no other commercial citrus area has been successful in eradicating the pest.