

**USE OF FLOATING BARRIER TRAPS FOR MONITORING RICE WATER
WEEVIL *Lissorhoptus oryzophilus* POPULATIONS TO DETERMINE THE
NEED FOR INSECTICIDE APPLICATIONS**

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Carbofuran (Furadan[®] 5G) was the only insecticide used in California to control rice water weevil (RWW), *Lissorhoptus oryzophilus* Kuschel, for almost 30 years. It was applied pre-plant to the soil and provided season-long control. In 2000 its registration was removed due to non-target effects. Insecticides currently available in California for RWW control are diflubenzuron (Dimilin[®]), an insect growth regulator and lambda-cyhalothrin (Warrior[®]), a pyrethroid. These products require the use of new techniques to time applications and optimize their effects. Both are applied after flooding and seedling emergence and provide approximately one week of activity against RWW infestations. Neither chemical directly targets the most damaging stage, developing RWW larvae feeding in the soil on plant roots.

Researchers at the University of Arkansas developed a floating barrier trap to monitor adult RWW infestations. It is used to determine the need for treatment and help pinpoint application timing. To determine its usefulness in California, field tests were conducted in 2000 and 2001 at six and ten locations respectively. In 2000 four traps were placed in each field; in 2001 this was increased to eight traps per field. The traps were placed four meters from the levee and twenty meters apart and monitored every two or three days, until the plants reached the seven-leaf stage. Soil cores were taken twice (three weeks apart) to access RWW larval populations and see how they correlate with adult trap catches.

Our results showed considerable variation, but a linear relationship was found between adult trap captures and larval densities from core samples. In 2000 there were 3 larvae per adult captured while in 2001 that number dropped to 1 larva per adult. We believe the difference was due to the traps being put out later in 2000 (about the two-leaf stage) affecting the total number of adults caught. In 2001 the traps were in the fields at the one-leaf stage and RWW were active at that time. Of the total number caught, over both years, more than 50% were captured by the 1-leaf stage and greater than 75% by the 2-leaf stage. This bodes well for the use of the trap as a management tool as current guidelines suggest insecticide applications be made between the 2 and 4 leaf stage. A third year of data will help firm up preliminary results and provide a more accurate threshold for rice water weevil management with post flood insecticides.