

Stand establishment systems and invertebrate pests

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Primary invertebrate pests of CA Rice

- Seedling pests
 - tadpole shrimp
 - seed midge
 - crayfish
- Rice Water Weevil
- Armyworms

How could stand establishment methods influence populations and severity of these pests??

1. Seedlings Pests – anything that lengthens the time from seeding to germination to establishment can increase the risk of damage from these pests.
 - so far we have not seen significant populations of these pests in the plot
 - they have been problematic in other fields in the Rice Experiment Station so they do occur at damaging levels in the area
2. Rice Water Weevil
 - insect overwinters as adults in crop debris, grassy levees, ditchbanks, etc.
 - the adults invade (by flying and crawling) rice fields in the spring very soon after flooding (I have seen adults crawling into the fields within 10 minutes of the floodwater)
 - deposit eggs in the leaf sheaths at the water line at about the 3 rice leaf stage
 - eggs hatch and larvae feed on the leaf tissue for a few days and drop down to the mud to feed on the roots until they pupate (also in the mud)
 - this root feeding is the primary damage
 - rice water weevil sampling
 - at the ~3-5 leaf stage, we examine 50 seedlings on both ends of each plot and look for feeding by adult RWW on either of the two newest leaves, this is an indication of the adult population level in the plots
 - we sample for RWW larvae twice during July (about 2 weeks apart) by taking 5 core samples (~44 in³ soil core containing at least one rice plant) and processing each sample by washing/ flotation method
 - Results – see next page
3. Armyworms
 - eggs are deposited by moths on rice leaves and/or on broadleaf weeds
 - larvae consume rice leaves and panicles
 - if incidence of b.l. weeds increases this could increase severity of this pest
 - so far we have not seen any effects

Rice Water Weevil results

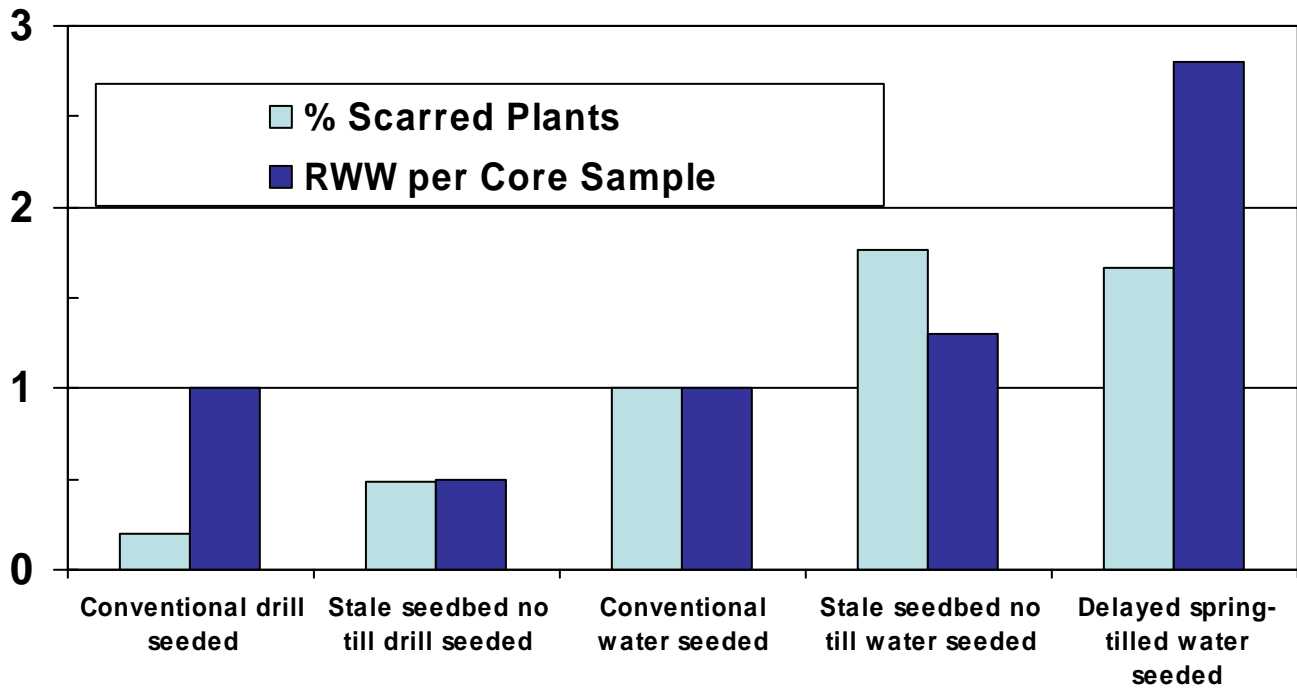


Figure 1. Result from 2005; conventional water seeded was set as the standard and the results were compared with that treatment.

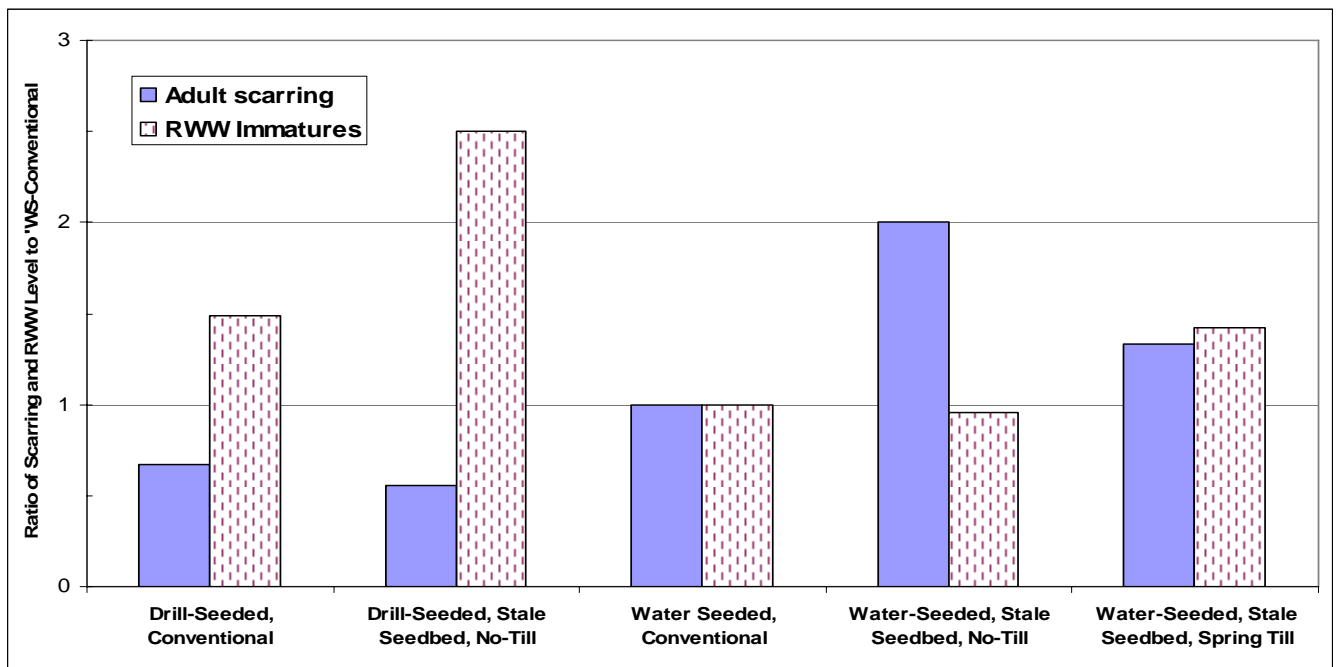


Figure 2. Result from 2006; conventional water seeded was set as the standard and the results were compared with that treatment.