Insect Pests of Rice

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Rice Water Weevil
*Lissorhoptrus oryzophilus*

The rice water weevil is a key pest of rice. Adults feed on rice leaves and lay their eggs underwater in rice stems. Eggs hatch and larvae move to the roots upon which they feed. As the larvae grow, they shed their skins periodically and increase in size. The larvae complete four instars (stages between molts) before pupating in a mud cocoon attached to rice roots. Research shows that an average of 1 larva per plant reduces yield about 80 lb/acre. This is a linear relationship; thus, 3 larvae per plant reduce yield about 240 lb/acre.

Four insecticides are now registered to control rice water weevil. Icon 6.2FS (active ingredient fipronil) is applied as a seed treatment to primarily control larvae. Karate Z (active ingredient lambda cyhalothrin) and Mustang Max (active ingredient zeta-cypermethrin) are applied as a spray to control adults before they lay eggs. Dimilin 2L (active ingredient diflubenzuron) is applied as a spray to sterilize eggs developing within adult females.

Rice Stink Bug
*Oebalus pugnax*

The rice stink bug is another key pest of rice. This insect has piercing-sucking mouthparts which the insect inserts in rice grains and extracts the contents. Generally, no yield losses are associated with this feeding but rice quality can be affected. Damage results in “pecky” rice which is discolored rice caused by rice stink bug feeding. In addition, upon milling, ‘pecky’ rice tends to break so head rice (% whole grain rice after milling) is reduced. Farmers receive less money for lower quality rice.

The rice stink bug lays its eggs in masses (two rows per mass) on rice foliage. After egg hatch, nymphs (immature rice stink bugs without wings) complete five instars before becoming adults. Each instar is a little bigger than the previous instar. The later instars (4th and 5th) and adults cause the most severe damage. Methyl parathion, Sevin XLR Plus (active ingredient carbaryl); Karate Z (active ingredient lambda cyhalothrin) and Mustang Max (active ingredient zeta-cypermethrin) are recommended for control. Fields with abundant weeds (particularly barnyardgrass) generally harbor high rice stink bug populations. Also, populations of rice stink bug are generally higher near the margins of fields.
The fall armyworm is a sporadic pest of rice. The larvae defoliate (consume foliage) of rice. The adult is a moth which lays its eggs in masses on rice leaves. Eggs hatch and the larvae complete four to six instars (stages of growth) before pupating in a cocoon in the soil. Generally, fall armyworm are more severe on rice before the permanent flood. Usually, fall armyworm can be controlled by applying a flush (temporary flood) or permanent flood which drowns the larvae. A wasp parasite (*Cotesia* sp.) and egrets also can help control populations. Farmers often apply Karate Z for control since this insecticide does not interact with propanil - a commonly applied herbicide.

The chinch bug is another sporadic pest of rice. This insect has piercing-sucking mouthparts like the rice stink bug. Adults are winged and are black and white. Adult female chinch bugs lay their orange eggs singly in soil cracks or on rice stems. Eggs hatch and nymphs begin feeding on rice stems usually near the soil surface. The insect completes five nymphal instars before becoming an adult. Seedling rice is very susceptible to attack. At this stage, an average of only one adult per two seedlings can kill rice. Frequently, an effective method of control is to flush rice or apply a permanent flood which drowns insects or forces them to move up the plants where feeding results in less damage compared to feeding on stems near the soil surface. However, rice growing on levees can still be damaged. Consult the latest Rice Production Guidelines for information on insecticidal control.
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Stem Borers

[Mexican rice borer, (MRB), *Eoreuma loftini*,] [sugarcane borer, *Diatraea saccharalis*] and [rice stalk borer, *Chilo plejadellus*]

Three species of stem borers attack rice in Texas. The most common is the sugarcane borer, *Diatraea saccharalis*, and the least common is the rice stalk borer, *Chilo plejadellus*. However, recently the species most problematic is the MRB which was introduced in 1980 from Mexico into the Lower Rio Grande Valley of Texas where it has become a very serious insect pest. The MRB lays eggs on dead or dying rice foliage. Eggs hatch and larvae move to the inside of leaf sheaths where they are partially protected from natural enemies and pesticide residues. These small larvae feed in the sheaths and eventually bore into the culm. Inside the culm, they feed between nodes to cause “deadhearts” (dead leaves) and “whiteheads” (panicles with unfilled grains). After completing five larval instars, the insect pupates within the culm and emerges as an adult moth. See the latest Rice Production Guidelines for management options.
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Grasshoppers
Orthoptera

Grasshoppers are seldom pests of rice. Usually populations are highest near the margins of fields. Grasshoppers feed on foliage and sometimes panicles. The most common grasshoppers in rice are long-horned grasshoppers which can also be beneficial since they feed on pest insects as well as rice. Long-horned grasshoppers are easily identified by their very long antennae.

Blister Beetles
Epicauta texa

Blister beetles are sporadic pests of rice. The adults usually move in mass from weedy field margins. They typically defoliate rice and broadleaf weeds late in the season. Occasionally, blister beetles will also feed on the reproductive organs of rice flowers. Insecticides registered for rice stink bug also control blister beetles. Usually ‘spot’ treatments of insecticides effectively control blister beetle populations.

Leafhoppers
Cicadellidae (Graminella nigrifrons)

Leafhoppers are sporadic pests of rice. The most common leafhopper in Texas rice fields is the blackfaced leafhopper. Leafhoppers have piercing-sucking mouthparts and remove fluids from the plant causing yield and quality losses. Sooty mold fungus is black and grows on leafhopper exudate. A good indication of high populations of leafhoppers is abundant sooty mold fungus on rice foliage. In addition, foliage takes on a bronze appearance. Consult the latest Rice Production Guidelines for management options.