



Last week we reported the finding of the Mexican Rice Borer (MRB) in Louisiana. Dr. Gene Reagan's graduate student Julien Beuzelin sent the photographs of the thoracic region of both the Mexican Rice Borer shown above and the Rice Stalk Borer (RSB) below. These extreme close-ups show a conclusive difference between the two. The MRB has one tiny hair above each leg while the RSB has two. Entomologists call these hairs setae. They can be seen with a hand lens and will provide positive identification of the borer in question.





At left is a third instar of the rice stink bug. After the eggs hatch each stage of immature insect is called an instar. The rice stink bug undergoes a type of development called incomplete metamorphosis (at least back when I was a student that is what it was called). This means the immature forms of the insect resemble the adult but usually lack wings. These immature forms are also called nymphs. So this is a third instar nymph. First instars are the stage following egg hatching and each time the insect molts it produces the next instar. The first and second instars are very small and usually do not cause much injury. However, the third, fourth, and fifth instars are the equivalent of a growing teenager, they feed constantly.

The stink bug below right is either a fourth or fifth instar. It has begun to take on the shape of the adult, but retains the coloration of the earlier stages.

The importance of knowing what the immature forms look like is not just to be able to recognize them as being the same insect as the adult, but also because finding them can influence treatment.

For example, if we discover a threshold level of stink bugs one week and recommend an insecticide, then upon checking the field the following week we find immature nymphs we are concerned. Because the immature forms do not have wings they were present at the time of insecticide application. Their presence a week later means we did not control them.

Finding only adults is not as alarming because they are so mobile and could have entered the field after the insecticide application. The pyrethroids will not provide enough residual control of adults to keep their numbers down. The introduction of Tenchu insecticide should give us some residual control.



We have discussed draining rice fields in earlier editions of Field Notes and in other formats as well, however this week I received several calls from very experienced rice growers asking questions about draining.

At right are two samples of panicles that represent the stages of ripeness we use to gauge drain time. The left hand sample shows panicles on which two thirds to three fourths of their kernels are straw colored. The right hand sample shows panicles on which about one half of their kernels are straw colored.

On silt loam soils we recommend drain if the panicles look like those in the left hand sample while on clay soils we use panicles like those in the right hand sample to gauge drain.

Of course it is never quite as cut and dried as this example. This year many fields are very uneven. When fields mature unevenly the decision represents a compromise between having some areas of the field over-ripe and others too green. In that situation we try to locate an area of the field we field most represents the entire field and take a sample from that area.



We also take into account weather conditions. If it is hot and dry we hold the water as long as we can, but if it is raining every day then we often drain a little earlier or at least stop pumping sooner. Another factor is how well the field drains. Difficult to drain fields should be drained earlier than fields that dry rapidly. The introduction of reduced tillage practices can also influence drain timing. If the soil firms up well it will drain quicker than a water seeded field that never completely firms up. All of these much be taken into consideration when making the decision to drain. We are testing the use of a moisture meter that measures grain moisture at high levels. If we can perfect it that might help to make the decision more objective instead of the current very subjective one it is. Early work indicates grain moisture at drain time is between 32 and 36 percent.

When a recommendation states to treat when there are a specific number of bugs per sweep, it is considered an objective decision and is pretty straightforward. Fungicide application and drain timing are in my experience among the most subjective decisions a rice farmer or consultant must make each year.