

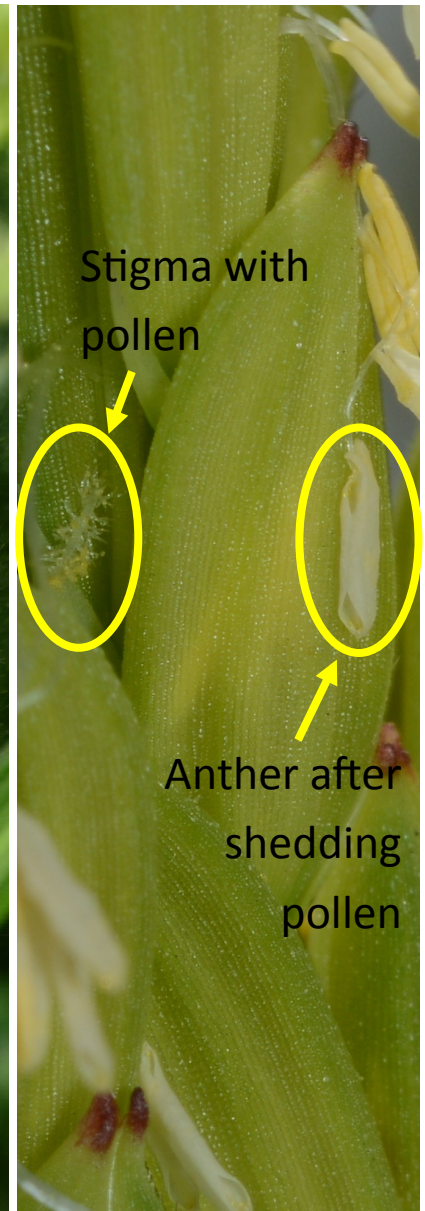
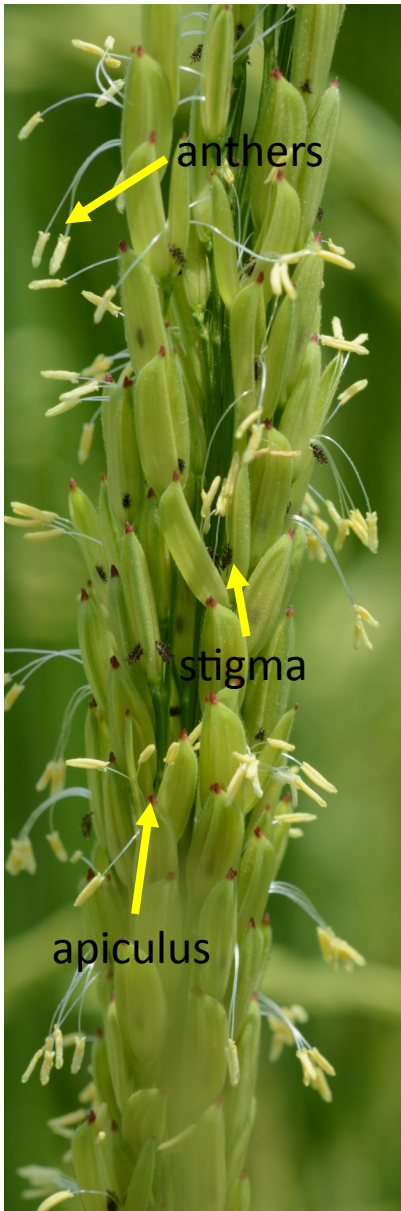
Field Notes

August 9, 2013

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I was asked to look at the field shown in the first photograph a couple of weeks ago. It had the odd pattern you can see which corresponded roughly to an area sprayed with a plant growth regulator. It was a private company application so I do not have any more information. The bases of the plants were black, but the roots were white. When the stems were split there was fungal growth inside of them. Dr. Groth suspects the fungus is secondary. Neither of us have any idea what is going on because it does not fit any of the diseases with which we are familiar.



I am never sure about the quality of images once I have sent them, but if you have the ability to enlarge these three it will help. The first one is a panicle in flower prior to shedding pollen. It happens to be a variety that has purple stigmas, not to be mistaken with the reddish-purple apiculus of the grains. The stigmas are the parts of the flower that catch the pollen. There are two in each rice flower or floret. The apiculus is the sharp point on the end of the rice hull. The rich yellow color of the anthers indicates they are full of pollen.

In the second photograph the image is blurry because I did not have my close-up flash with me. When the panicle was struck sharply its pollen was shed. This was about noon and the process of anthesis—the actual shedding of pollen—was in full swing.

The third photograph is of an anther that is empty after shedding its pollen load. Notice the openings at the top and the bottom through which the pollen is released. Left of the anther is a stigma (not of the same variety as in the first photograph which is why it is not purple). If you are able to enlarge the image you should be able to see pollen grains on it. These grains will germinate and grow down through the stigma, the style, and enter the ovary where fertilization will take place beginning the process of grain formation.

Over the years I have shown you clusters of first instar rice stink bugs explaining that the new hatchlings remain near the egg cluster until they deplete their stored food reserves. Then they begin to disperse and feed on developing rice grains. In our verification field in W. Carroll we found extremely high numbers of stink bugs last week. I recommended using Tenchu because it is supposed to provide some residual activity and we have a long way to go before we can tolerate stink bug feeding. The photo of the hatch-out was taken 5 days after the Tenchu application. The stink bugs shown here were not active which leads me to suspect the Tenchu was still working. We found no adult stink bugs in our sampling. If we find immature stink bugs next week then it could mean a week or so is about the limit of the residual activity at that location and under those circumstances. If we find adult stink bugs it means we likely got another infestation. If the field remains clean I will be very impressed. This is the first Tenchu application in a verification field.

