Field Notes
July 25, 2008
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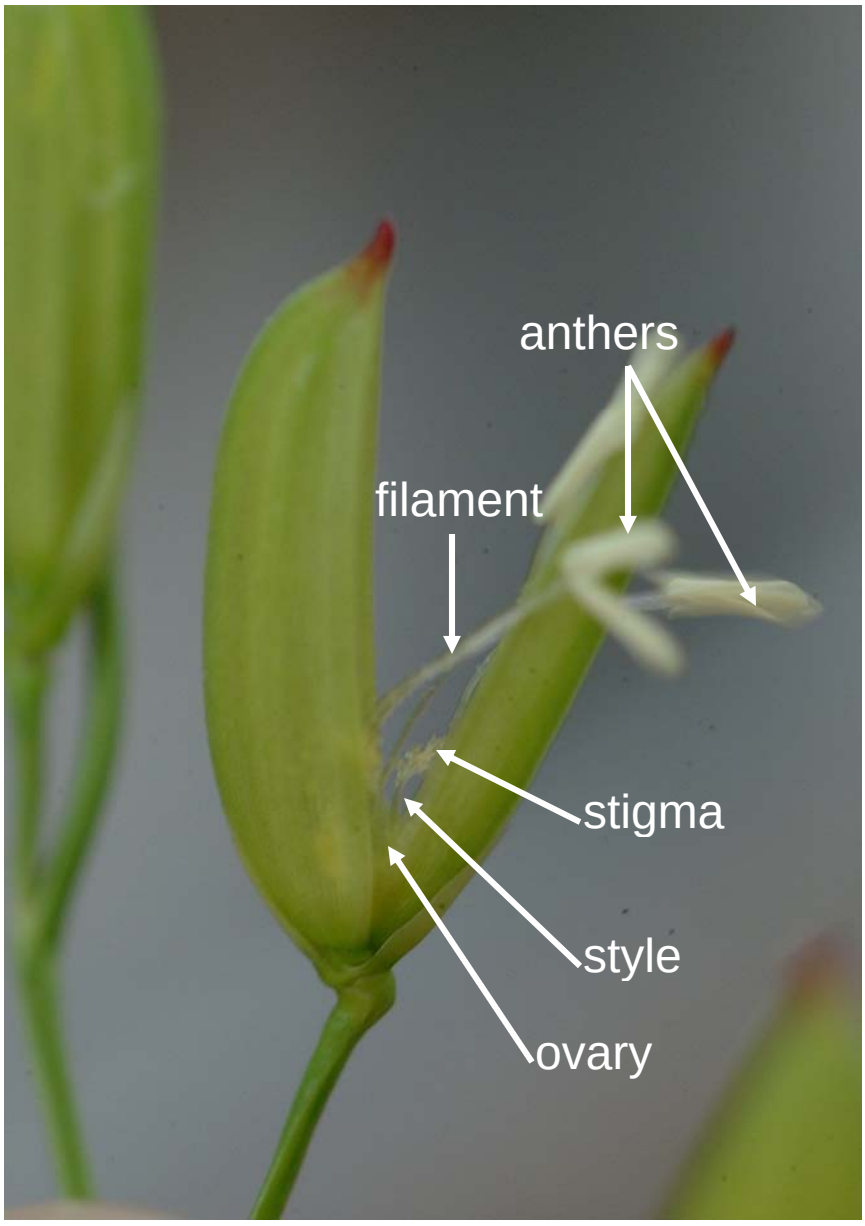
Last Monday while out checking rice we came across some plants with open florets. This happens briefly during the middle of the day. It presented an opportunity to talk about the flower parts of rice. Rice flowers are perfect flowers, that is, they contain both male and female parts. The anthers are the pollen bearing structures. They are supported on slender filaments. Together the anther and filament make up a stamen. There are 6 stamens per rice floret. Stamens are the male flower parts. The female structure is the pistil. It is composed of the stigma, style and ovary. The stigma is the part on which pollen is captured after being shed by the anthers. The style is the short stalk supporting the stigma and attaching it to the ovary. The ovary is the part of the flower that will become the rice grain once it is fertilized.

When pollen is shed by the anthers it is carried by wind to stigmas of either the same flower or flowers of nearby plants. The perfect flowers make self-pollination highly likely or conversely cross-pollination highly unlikely. Dr. Jim Oard's work has indicated an outcrossing percentage of less than 1% with most varieties.

The female parent in hybrid varieties does not produce viable pollen thus requiring a nearby male parent.



The two photographs above were taken in a field where localized decline was suspected. Out of the view is the well outlet on which is a key to the problem. It is covered with iron deposits. Dr. Gary Breitenbeck's work with localized decline indicates iron and/or aluminum toxicity. The symptoms are nearly identical to those shown in the two photographs. In this case I do not think it is localized decline, but I do think it is a consequence of excessively high iron in the water. The farmer told us the water is orange for the first 20 minutes or so of pumping then clears up. The area affected delineates the distance this cloudy water moves before the iron either settles out or comes out of solution. (I don't know enough to explain that part.) Interestingly, Dr. Dustin Harrell has used very high rates of zinc to prevent the development of these symptoms in areas known to have had localized decline.

I suggested to the farmer he build a ring levee around this area in the future to confine the problem to a smaller area. The symptoms on the leaves shown above could be seen on plants that were surviving in the margins of the affected area. According to County Agent Stuart Gauthier who works with horticultural crops as well as rice, many local nurseries use a holding basing to remove iron from irrigation water.

We continue to drain verification fields and should harvest one next week. The only treatments still going out are those to control stink bugs. This may be the last field notes of the season.