Field Notes

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It has been several years since I have seen as dramatic an example of "potato chipping" in a rice field as I saw last week. I suppose it is because we have had an increased interest in water seeding this year and this phenomenon is associated with working soil in a flooded state in preparation for water seeding. Some soils are more prone to exhibiting this than others. It is most often associated with silt loam soils because the soil must have a certain amount of sand in them for this to happen.



When soil scientists perform a mechanical analysis of soils to determine the percentage of sand, silt, and clay particles they first dry the soil, then pulverize it, then mix a specific amount of soil with a specific amount of water and agitate the mixture. After this the mixture is allowed to stand and the various particles settle out. In preparing a field for water planting farmers do much the same thing on a large scale. The soil is plowed, then mixed with water and stirred to "make mud", then allowed to stand.



The first particles to settle out are sand particles beginning with the largest and continuing to the smallest or very fine sands. In a laboratory setting the sand will settle out in a few minutes. It will require another few hours for the silt to settle out assuming the mixture is not disturbed. The smallest clay fractions may never settle out if they are dispersed enough to form a colloidal mixture.

When the sand particles settle out they form a layer of sand beneath a layer of silt and then clay. In the photograph at left are two sand layers. The first probably formed after the initial passes of implements and the second later when the farmer was making final trips in the field. This sand layer acts as a barrier to moisture movement within the soil. As the surface dries it contracts causing it to curl. As thin as this sand layer is water will not move upward by capillarity. The ability of silt and clay to hold water more aggressively than sand also keeps water from migrating downward.



The following message was sent to sugarcane agents then sent to me by Jimmy Meaux, county agent in Calcasieu parish. I suppose it was inevitable that it would show up in cane where it can cause more damage than it does in rice. Regardless, we now need to keep an eye open for it later in the season. I'll try to remember to remind you later.

On March 29, 2013, a Mexican rice borer (MRB), *Eoreuma loftini*, larval infestation was detected for the first time in a Louisiana sugarcane field. The field is plant cane of variety L 99-226, south of I-10 approximately 2.5 miles west of Iowa in Calcasieu Parish (N30.246994°, 93.053832°). Pheromone trap detection of MRB adults near the field in February this year provided early indication that the insect was present in the area. Additional detection of MRB adults near sugarcane fields in Jefferson Davis Parish west of Hwy 165 suggests the insect is present in that area as well. MRB larvae can be distinguished from sugarcane borer larvae by their lighter colored head capsule and pair of purple stripes running the length of the body. Note the stripes are NOT continuous—they appear broken. If you suspect a problem please give us a call.

At right is a photograph of an old nemesis of rice that was extremely common when most of our rice was water seeded. Underneath the orangish growth is a rice seed or what is left of it. This is a good example of water mold. The thread-like growth is the fungus mycelium. Often if the seed are buried in the soil the only obvious evidence of water mold will be a dark spot in the soil.



Last week Andrew Granger and I visited a field where there was considerable stand loss to water mold. This was the first instance I have seen in the past several years. As the amount of dry seeding increased the cases of water mold decreased. In the last couple of years early wet weather has led farmers to switch back to water seeding. Unfortunately, the regulations now in place make it difficult to treat soaked seed with fungicide. When dry seed are flown into a field the water should be held for 24 to 48 hours or until the seed have "pipped" (begun to germinate). The cold weather this year is perfect for water mold because it puts the seed under stress and delays seedling development. The fungi that cause water mold are really fairly weak pathogens, but they are given an advantage under these conditions.



The above photograph is an example of some of the healthiest southern watergrass I have seen in a while. Usually it is observed forming thick mats of vegetation along field borders, in ditches and in open areas of rice fields. In this case it was distributed throughout the field from water leveling operations. The famer said it was only along the field edges until they prepared the field in the water. It is difficult to tell from the picture that this grass is finer stemmed than some of the other perennial grasses found in rice fields. The stems are almost wiry, similar to common bermudagrass. There are no hairs on the plant, the stem is solid in cross section and the ligules are prominent and membranous. I have not found a single herbicide that controls it well. A few years ago we used Regiment in one of our verification fields to control other weeds and got pretty good suppression of southern watergrass from the treatment. I spoke to Dr. Webster who said in one study he got fair control out of Clincher, but he qualified that by adding that it was only in one study and that he was able to get very good coverage when spraying. He emphasized the need for very good coverage which is often a problem in field situations where this grass is present.