Field Notes

May 1, 2014

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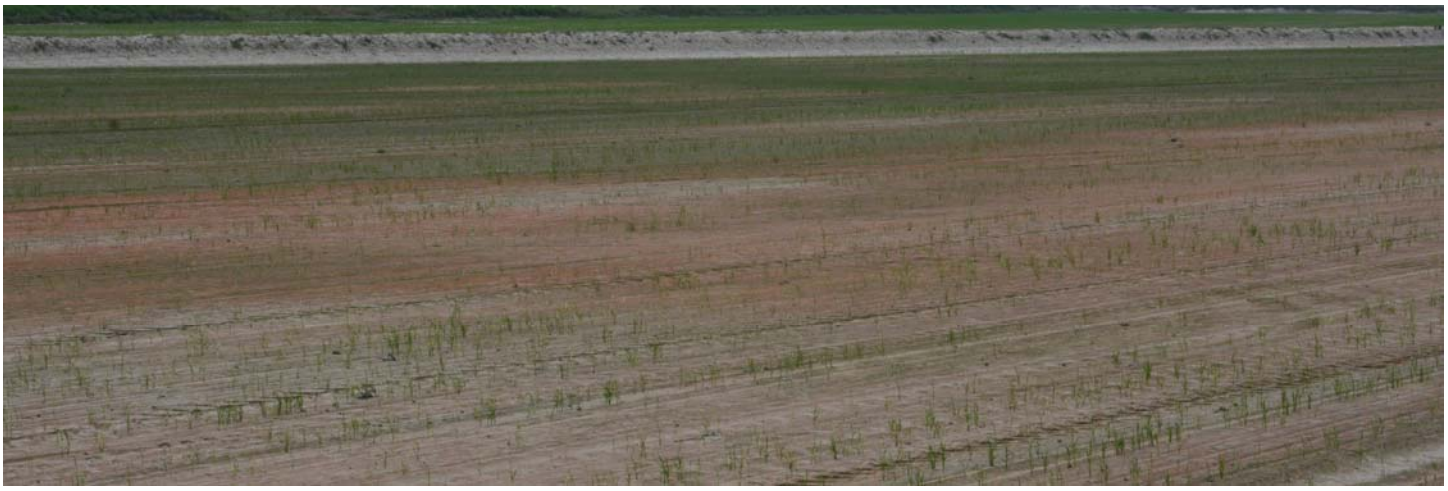
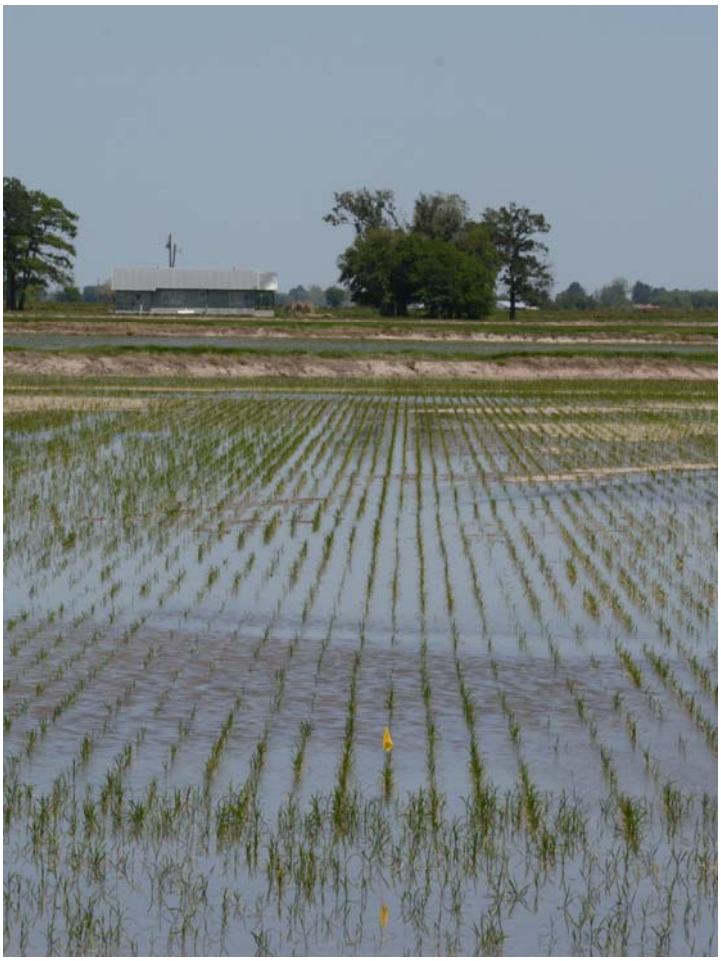


This series of photographs presents one of the most startling appearing fields I have encountered. Entire sections of the field appeared bright orange while others were dark green. The second and third pictures provide more detail on the orange spots. The field had been fertilized with 250 pounds of 9-23-30 fertilizer which in this case was a simple 50:50 mix of diammonium phosphate (DAP) and muriate of potash (KCl). Potassium fertilizer is usually sold as either 0-0-60 or 0-0-62. The higher analysis is a little purer and is white while the more common 0-0-60 is reddish-orange. It is these granules that dissolved in place causing the orange spots on the soil. The dark green areas were the result of algae growing on the soil. The tough question is why did this show up like this when we have seen thousands of fields where this fertilizer material was used, but have not observed this phenomenon. The farmer noticed stand loss and wanted to know if this had caused it. KCl is a salt and banding of KCl too close to plant roots has long been noted as injurious to crops because of the "salt effect" - actually desiccation—of the plant roots. Whether there was a salt effect here is difficult to say. We did note seedling disease here too in spite of the fungicide seed treatment. Strobilurin resistant *Rhizoctonia* is documented in the area which could contribute if the pathogen was *Rhizoctonia.*



The two areas shown in the photographs above are adjacent drill passes, but I could not get the perspective in one shot that showed the differences as well as two photographs. On the left is a hybrid treated with NipsitInside seed treatment and on the right is the same hybrid treated with Cruiser Maxx seed treatment. Last year Bob Scott of Arkansas reported observing safening of rice from Command herbicide injury in plots treated with CruiserMaxx. The farmer read about it and decided to load half of his drill with seed treated with CruiserMaxx and half with NipsitInside. I sure looks like something is going on and the pictures do not do justice to the appearance in the field. Because CruiserMaxx is a combination of insecticide and fungicide it is difficult to say it is the effect of the insecticide alone. Scientists are studying this to determine if it is a difference in insecticide or the fungicide or the insecticide and fungicide in combination (synergism) that is causing the visible differences.

I make the point of saying visible differences because until replicated experiments are conducted we do not know if this will translate into a yield benefit. However, as the grower pointed out, even if there is not a yield effect the taller plants would allow him to flood earlier. This is similar to the benefit we see with the use of low rates of nitrogen early in the season as a "starter". Research has never been able to demonstrate a consistent yield benefit from these early season nitrogen applications, but the benefit of being able to apply herbicides a little earlier and establish permanent flood a little earlier might be the few days ahead of a hurricane at the end of the season.