calibration and soil sampling protocol. Field validation studies included five N fertilizer rate treatments and four replications. Nitrogen rate treatments included a check (0 kg N ha-1), standard recommendation for silt loam soils in Arkansas (168 kg N ha-1) and prescription N rates for each field based on the N-ST*R value and the three calibration curves. Using N-ST*R for the 95% RGY goal resulted in N rate recommendations ranging from 20 to 258 kg N ha-1. Yields were compared for the 90, 95 and 100% RGY treatments to the standard N fertilizer rate recommendation to evaluate the ability of N-ST*R to predict site-specific N rates that would maximize yield. Initial results show that maximal yields could be obtained using the 95 and 100% RGY curves for each of the 20 sites investigated. In many cases, the yield obtained using the N rate from the 90% RGY calibration curve was not significantly different from the maximal yield for a given location. Success of the N-ST*R program will lead to further validation studies and implementation of strip verification trials in producer fields to gain more data on the ability of N-ST*R to prescribe site-specific N rates and provide a field-scale demonstration of this exciting new management tool.

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Program 13R-2

Trends In Reduced Tillage In Louisiana Rice Production

Presented by Dr. Johnny Saichuk

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Interest in reduced tillage rice production began in the late 1980's at a time when the predominant method of seeding in south Louisiana was water seeding. The driving force behind water seeding was red rice. Red rice is a weedy form of rice and belongs to the same genus and species of cultivated rice. Thus any herbicides that would kill red rice would also kill cultivated rice. By water seeding red rice germination and emergence could be suppressed. It was and is the most effective cultural control method available.

In other crops planter manufacturers were modifying existing equipment or designing entirely new planters to meet the challenges of good seed placement in no-till or reduced tillage seed beds. Because none of these planters work in water seeded situations one of the most difficult challenges to reduced tillage rice production was establishing good seed to soil contact. Broadcasting seed by air into standing water presents its own set of problems such as seed midge, water mold, seed drift and bird depredation. Sowing seed into stubble in standing water on firm soil compounds the problem.

Early attempts were met with frustration and disappointment. Only the most determined adopted reduced tillage in rice production while acreage devoted to reduced tillage in other crops took off. In northeast Louisiana where drill seeding was already in practice rice farmers slowly applied lessons learned in their other crops to rice.

In Louisiana reduced tillage acreage is broken down into no-till and stale seedbed. True no-till includes planting into existing crop residue, planting into a fallow field, and planting into crawfish ponds without seedbed preparation. Stale seedbeds are seedbeds prepared either in the fall or late winter then left undisturbed until planting. In Louisiana even a seedbed prepared in late winter will likely be covered by native vegetation by planting time only a few months later. Land prepared in the fall remains bare only a very short period of time before

annual bluegrass, Carolina foxtail and other cool season species emerge often providing a cover that appears to have been planted.
In 2002 a revolutionary technology called Clearfield was introduced to commercial rice production. It provided an ability to control red rice with herbicides which meant growers would no longer have to use water seeding. Drill seeding and broadcast seeding followed this introduction which also opened the door to no-till and reduced tillage rice production. Without Clearfield rice varieties it is unlikely that dry seeding would have ever increased significantly thus no-till and reduced tillage production would not have been adopted in rice production in Louisiana.
In 2002 only 3% of rice acres in Louisiana were planted to Clearfield varieties. Two years later that figure had increased to 23%. As the varieties improved and growers experimented with the technology the acreage increased. Surveys of the 2010 crop indicate a little over 70% of Louisiana rice acres were planted to Clearfield rice.
Unfortunately, no formal surveys comparing water seeding to dry seeding were conducted over that same time span. Most experts agree in south Louisiana at least 80% of rice was water seeded prior to the introduction of Clearfield technology. In northeast Louisiana where red rice was not yet as serious it was the opposite with at least 95% of the rice dry seeded in that region of the state.
The first formal data on water seeding versus dry seeding was generated in 1998. At that time only 44% of the acreage in the state was dry seeded. Surveys from 2010 show 68% of rice planted state wide is now dry seeded with the bulk of that being drill seeded.
Correspondingly all forms of reduced tillage acreage increased as the adoption of Clearfield technology progressed. In 1998 only 4% of Louisiana's rice acreage was in true no-till production with a total of all reduced tillage forms adding up to 17%. The introduction of Clearfield rice in 2002 resulted in a dramatic increase in reduced tillage acreage to nearly 30%. The acres devoted to reduced tillage is influenced by weather especially for those who prefer a fall stale seedbed so some fluctuation in acreage has occurred. Overall the adoption of reduced tillage practices has shown a steady increase to the 2010 level of almost 43% of rice being planted in this manner. True no-till acres have doubled to a little over 9% with stale seedbed making up the remainder.
In the beginning reduced tillage systems were practiced by the "experimenters". It was considered risky and difficult. Today reduced tillage is a common practice being utilized by nearly all rice farmers to some degree. True no-till is gradually gaining acceptance as better equipment and cultural practices are perfected. This trend is expected to continue well into the future.

Program 7R-2

▸ Rice Seed Treatments For Insect Management

Presented by Dr. M.O. Way
Professor of Entomology, Texas A&M University

Insecticidal rice seed treatments for control of an array of insect pests are excellent new tools for our farmers, especially in conservation tillage systems where vigorous rice plant stands are essential to successful production. Also, most farmers are decreasing their seeding rates due to the higher cost of seed and reduced recommended seeding rates of new varieties such as the hybrids. So, protection of this seed, afforded by the new insecticidal seed treatments, is a viable option for our rice farmers.
Currently, 2 insecticidal rice seed treatments are labeled---Dermacor X-100 and CruiserMaxx. Both provide excellent control of the rice water weevil (RWW). Dermacor X-100 also controls fall armyworm, South American rice miner and stalk borers while CruiserMaxx controls grape colaspis, aphids, thrips, chinch bug and other early season pests with piercing-sucking mouthparts. In addition, CruiserMaxx possesses 3 fungicides to protect seed against seedling diseases. A third insecticidal seed treatment, Nipsit INSIDE, is projected to gain a rice label within the next 2 years. Nipsit INSIDE was granted an EUP in the