

# Trends In Reduced Tillage In Louisiana Rice Production

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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. Δ

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