

► Evolution Of Reduced Rice Production In Louisiana

Presented by Dr. Johnny Saichuk

Extension Rice Specialist, LSU AgCenter

In the 1980's innovations associated with reduced tillage began with dry land crops such as soybeans and corn. The methodology was particularly attractive in areas where surface and/or internal drainage was good. Poorly drained, low lying soils presented a number of obstacles to the use of the early technology. These soils are often the soils on which rice production is situated, thus rice was one of the last crops to embrace reduced tillage techniques.

There were several changes that made possible reduced tillage methods in rice production. When laser leveling was introduced it enabled farmers to precisely level or establish very slight grade to field surfaces thereby improving water management significantly. The ability to flood and drain rice fields in a timely fashion is the most important aspect of rice production. Farmers realized how much better and easier water management had become which allowed them to plant rice in situations not possible prior to the introduction of precision leveling of land. They could now flush fields more efficiently and obtain good stands where they could not before.

Improvements in planter design also helped bring rice production into the reduced tillage fold. The first grain drills used in reduced tillage production were traditional grain drills designed to plant into tilled soil. Manufacturers discovered these grain drills would not hold up under the type of abuse presented by untilled soils especially if there was significant standing vegetation or the soils were clay or clay loam. Simply using heavier materials did not solve all of the problems. Numerous coulter designs were studied. Covering devices were tried and discarded. Metering mechanisms were improved to allow lower seeding rates and depth control of seed placement was improved.

The most significant change that opened the door to reduced tillage rice production was the development of Clearfield technology. The ability to control red rice with herbicides allowed rice farmers to plant into a dry seedbed bringing about a major reduction in water seeding. Using a grain drill to plant rice solved the major problem of maintaining good seed to soil contact that was not always possible with sowing seed into standing water or onto a firm soil surface that had not been tilled. This represented a quantum leap forward for reduced tillage rice production.

As farmers adopted dry seeding their interest in reduced tillage also increased. Most of the reduced tillage production of rice in Louisiana is referred to as fall stale seedbed. In this practice fields are prepared in the fall and not disturbed again prior to planting. Planting is most often accomplished with a grain drill in the spring. A much smaller portion is called spring stale seedbed. In this system the seedbed is prepared in late winter or very early spring and left undisturbed for a month to six weeks prior to planting. A limited amount of rice is planted using true no-till methodology. Only when the previous crop is harvested under dry conditions resulting in a relatively undamaged soil surface is true no-till possible. The practice is most common on the clay soils of northeast Louisiana which respond well to minimum disturbance.

Combining all of these changes in technology has led to a dramatic increase in reduced tillage rice production in Louisiana.