Methods of Soil Disturbance

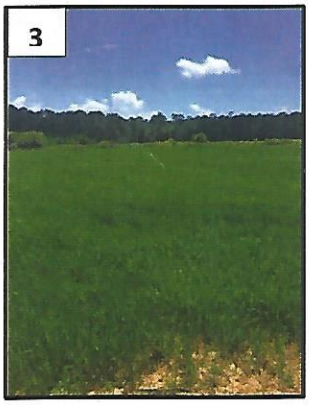
Disturbing late successional areas should be done with three main actions including mowing, disking and hydro-rolling if time allows. First, areas should be mowed two weeks before disking occurs. Disking should include at least 5-8 passes over a disturbed area to ensure dirt clumps are smaller than 3 inches, which discourages broadleaf plants from establishing. One to two disking passes should be completed per day (may be disked every other day), allowing the soil to dry and break up faster on the final passes. Once the soil is disked to the desired clump size, compaction may be used if time allows. Compacting the soil using a smooth drum roller further reduces the chances of broadleaf plants taking over the disturbed area the following year and promotes early successional plants like chufa and millet. Ideally, hydro-rolling should be done between June and July on mudflats for best results.

Supplemental Planting

Corn, soybeans, japanese millet, browntop millet, and milo have all historically been planted in the moist soil units. Although they carry high DED/acre values, these crops are costly and time consuming to produce successfully. Fall armyworms and lack of water are the biggest threats to these crops and usually lead to crop failure. However in 2017, a rice field trial (Unit 7) was planted and produced six acres of mature rice.

The rice was broadcasted in 2017, with the tracked ATV at 100lbs/ac and supplemented with a mix of 40lbs/ac of nitrogen and 40lbs/ac potash immediately after planting on July 13th. Units 3, 4, and 5a were held at maximum capacity with water from the spring rains and were used to maintain at least 2 inches of water on the rice. Water had to be added to unit 7 every 2-3 weeks using water from units 3, 4 and 5a. The first flush of water occurred when plants reached 8-10 inches tall, ensuring only 1-2 inches of the stem were underwater. Six boards were placed into WCS "W" and 4 boards into WCS "Y" for an optimal irrigation depth.

A seeding rate of approximately 60-80lbs/ac should be targeted in future rice plantings, as the 2017 plantings were found to have been too thick and could be susceptible to army worms. Millets, chufa, panicgrass and other desirable species will grow along with the management process as outlined.



2017 Rice Planting Trial

Image 1: Broadcasting rice on to mudflats 3 days after soil exposed on June 13th, 2017.

Image 2: Rice sprouting to 2 inches on June 20th, 2017, a week after planting.

Image 3: Rice at approx. 10 inches tall on July 6th, 2017. Water added to unit on the same day to a depth of approx. 2 inches.

Image 4: Rice at full maturity on September 11th, 2017.