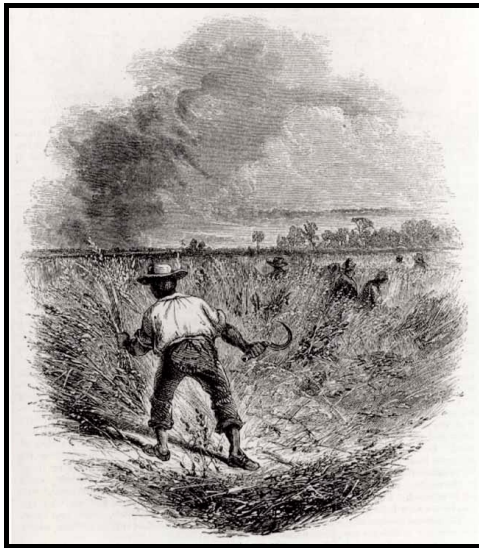


The growing of tidal rice required an elaborate system of hydraulic machines created out of swamp land. Enslaved African-Americans created these systems all along the South's coastal rivers. They cleared the swamps and created a system of embankments, tidegates to control the inflow and outflow of water, sluiceways, canals, and ditches.



Tidal Rice Cultivation

It often took up to a year to complete construction of a rice field, usually 5 to 22 acres. The slaves built the embankments to a height of two feet over the maximum high tide. Just above the low tide level, the tidegates or trunks allowed fresh water access from the river. These trunks allowed the rice planter to flood or drain the fields. About 25 feet in length and equipped with swinging doors at each end, the trunks could be opened or closed on the incoming or ebbing tide.

In the spring, after slaves broke up the fields with hoes, the rice was planted by sowing two or three bushels of seed per acre. Planting rice took four to five weeks on most plantations. After sowing the fields, the planter flooded them with the sprout flow for three to six days. Then they drained the fields and kept the water off until the plants were established or about two inches high. During this period, the younger and older slaves kept the rice birds out of the fields.

The second irrigation called the point flow lasted eight to ten days. The point flow killed the weeds and grasses in the fields. After the point flow was drained, the slaves hoed the fields again, then opened the gates to allow for the stretch flow. After about three weeks, the fields were drained and the rice grew for about five weeks.

One final flooding, the harvest flow, lasted 40 to 50 days. During this period,

some slaves waded through the fields to pull up the "volunteer" or wild rice and weeds. Again, the younger and older slaves kept the rice birds away.

When the rice was fully headed in late August or early September, they again drained the fields and began the harvest. A rice plantation averaged 50 to 60 bushels of rice per acre, although a good year might yield 70 to 80 bushels per acre. The harvest took six to eight weeks. Slaves cut the rice stalks with a sickle called a ricehook. After allowing it to dry for about two weeks, they bundled it and transported it to the mill on flat boats floated through the canals.

The slaves threshed the rice by removing the rice heads. Slaves then cleaned, or winnowed, the rice to separate the grain from the chaff. Finally, they pounded it to remove the hulls. In the 1790s, Jonathan Lucas of South Carolina built the first tidal powered rice mill. This method could handle all of the processes of rice preparation including grinding, winnowing, pounding, screening, and polishing. Later planters learned how to use steam power to operate their rice mills.

Vocabulary Words:

| | |
|-------------|-------------|
| tidal | elaborate |
| hydraulic | sluiceway |
| canal | maximum |
| equip | ebb tide |
| bushel | plow |
| establish | rice bird |
| irrigation | sickle |
| bundle | transport |
| mill | winnow |
| hull | process |
| agriculture | cultivation |
| thresh | harvest |

Questions to Answer:

1. Why do you think this style of growing rice is called tidal rice agriculture?

2. Name the four flood stages or flows in order? How long does each one last?

3. How many bushels of rice did a Georgia plantation produce per acre in an average year? Can you figure out why some years did better and some did worse?

4. Why would owning a steam-powered rice mill be a good thing the planters?

5. Find out what a sickle looks like and draw one.