

The Cane Harvest Conundrum

Spotlight: Allen Ramsey Wurtele (1893-1947)



Historic Context: Here is Mr. Allen Ramsey Wurtele of Mix, Louisiana (Allen Wurtele, second from left). Mr. Wurtele owns and operates Ramsey Plantation, a sugar plantation in Pointe Coupée parish. It is the 1930's. Mr. Wurtele's plantation requires many field-hands to help harvest the sugar. These laborers use a cane knife to harvest the crop by hand. Individual stalks are cut at the base, then the leaves are stripped before stacking them in piles ready for loading. He really can't afford to keep the laborers employed throughout the year and so these workers can only be employed on a seasonal basis and are sometimes in short supply.

Harvest time also requires a large number of mules to haul the carts filled with the cut sugar stalks—mules that have to be fed and cared for all year round, even though they are mostly needed at harvest time. Mr. Wurtele also faces the challenge of trying to get all his 2,000 acres of cane harvested before the crop is damaged by freezing weather. This is often difficult because the rain impedes the harvest when it gets so muddy carts, mules, and people get stuck. So, a lot of work must be done in a very short period of time with the help of a lot of people. This is very expensive.

- **Problem/Activity:** How can Mr. Wurtele solve these problems? Could he invent a machine? If so, what would it look like? How would it work? What features would it have to have to address all of Mr. Wurtele's needs? How would it be designed to work in the conditions described above? What simple machines might be combined to design a more complex machine that can handle Mr. Wurtele's harvest?
- **Working alone or with a group,** design such a machine. You may have to conduct some additional research. If working in a group:

Choose someone to sketch it. Choose someone to make notes of its features. Choose two spokespersons who will present your group's invention/design.

- **Video** your presentation (or your group's presentation) and share it with your peers/classmates. Have them send you feedback on how they think the design might be improved.

