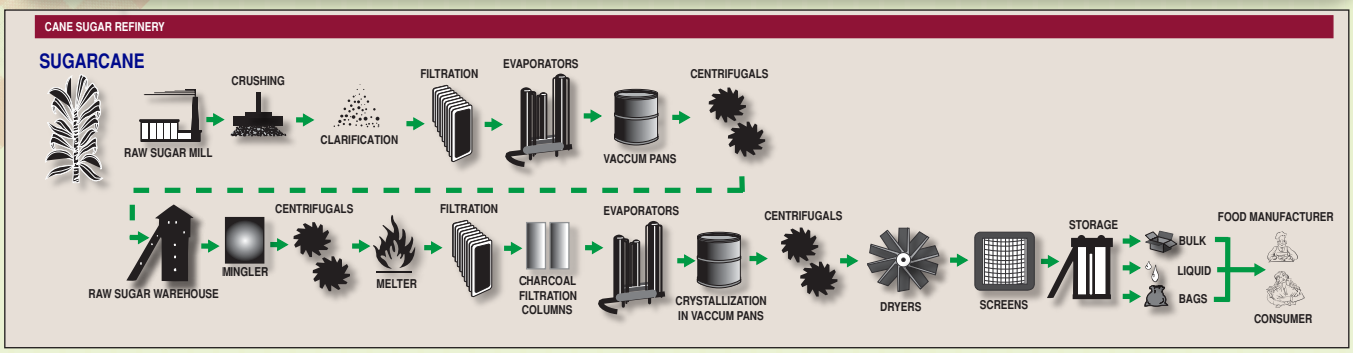
LOUISIANA sugarcane

From the Field to the Table

Sugar comes from sugarcane and sugar beets, but how does it get out of the field and onto the table? Fortunately, nature has taken care of making the sugar; the cane and beets do that. We just have to extract and **purify** *the sugar (sucrose) from these plants. In Louisiana sugarcane mills and refineries are the next step once the cane leaves the field.*



Cane Growth & Harvest

In Louisiana, sugarcane begins to grow very fast after the last threat of a freeze is over, but cane grows fastest during the hot summer months. Usually by late September, the cane is ready to harvest. Large machines called combine harvesters cut the standing cane into pieces called billets and loads the billets into wagons and trailers. The cane is brought to the sugar mill for grinding.

SugarCane Mills

After it's harvested, the sugarcane goes to a mill located near the field, where the raw sugar is separated from the plant and shipped to the refinery. Here's how it works: At the mill, the sugarcane stalks are washed and cut into shreds by rotating knives. Next, huge rollers crush the juice out of the shredded pulp. This juice contains the sugar that will eventually find its way to your kitchen pantry and dining room table. The next three steps turn this juice into golden raw sugar:

1. ***Purification*** —The sugar juice is purified through a process called **clarification**. Clarification removes non-sugar plant materials like wax, fats and gums naturally present in all plant cells.

2. ***Evaporation*** — The sugar juice is **filtered**. Then the juice is boiled to remove the water in a process called evaporation. This leaves behind a clear, colorless syrup.

3. ***Crystallization*** — As the water evaporates from the syrup, sugar crystals begin to form. These crystals are sent to a centrifuge. This machine works like the spin cycle on your washing machine. As it spins faster and faster, sugar crystals are washed, leaving behind golden, raw sugar.

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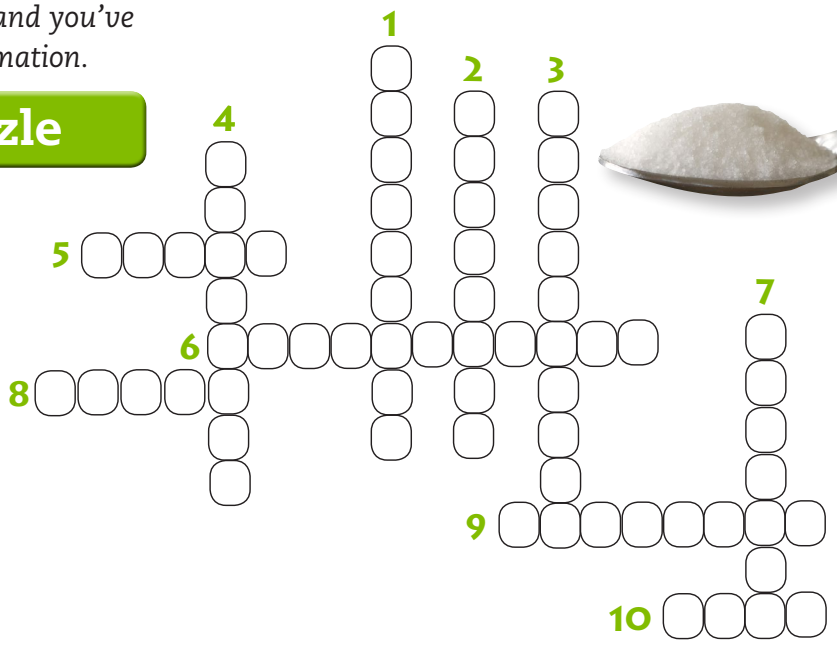
SugarCane Refineries

After the golden, raw sugar leaves the mill (pictured at left), it is transported to a refinery where it is washed to remove the brown molasses which naturally surrounds the sugar. This washing **transforms** the crystals back into syrup. After the molasses is removed, the clear syrup is boiled to remove some of the water by evaporation. This thick syrup is then evaporated a second time and sugar crystals are formed.

The sugar crystals are spun in a centrifuge again to remove the excess syrup. Then the sugar is dried and packaged. By the time the sugar leaves the refinery, it is ready for the table.

Complete this crossword puzzle, and you've processed a lot of sweet information.

Crossword Puzzle



Across

5) Located near sugarcane fields
6) Process of changing from a liquid to a gas
8) Sugar crystals are naturally _____ -less.
9) Place where brown molasses is removed from raw sugar
10) Soft juicy part of a fruit or vegetable

Down

1) To change very much in form, nature, function, or appearance
2) Raw sugar _____ are formed from evaporating syrup
3) Works like the spin cycle in a washing machine
4) The sugar juice is_____ then boiled
7) Sugar is 100% pure and _____ .

ANSWER KEY:

ACROSS
5. MILLS
6. EVAPORATION
8. COLOR
9. REFINERY
10. PULP

DOWN
1. TRANSFORM
2. CRYSTALS
3. CENTRIFUGE
4. FILTERED
7. NATURAL

Glossary

- **purify** - *v.* to make pure; to clean out unwanted materials
- **clarify** - *v.* a process to remove impurities in a liquid
- **evaporation** - *n.* the process of changing from a liquid into a vapor or gas
- **filter** - *v.* to pass through a device that cleans unwanted matter from air or liquid
- **transform** - *v.* to change in form, nature, function, or appearance