Important Evolutionary Changes in Corn, Importance of Corn in Medical Advancements, and Genetically Modified Sweet Corn

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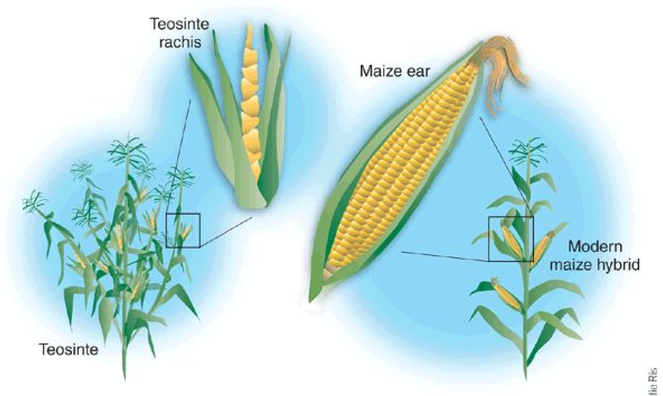
Our Focus

Evolutionary and Nutritional Changes:



Ancient Ancestor
- **Teosinte to Modern Corn**
  - ***Zea mays* ssp. *Parvigumis***
  - **Teosinte Glume Architecure I *(tgal)* and Teosinte Branched I *(tbl)***
  - **Structural changes**

Nutritional Changes
- **Teosinte**
  - **Insoluble fiber**
  - **Lower caloric value**
- **Corn**
  - **Amino Acids – Lysine and tryptophan**
  - **Vitamin B**

Medical Uses of Corn Through History

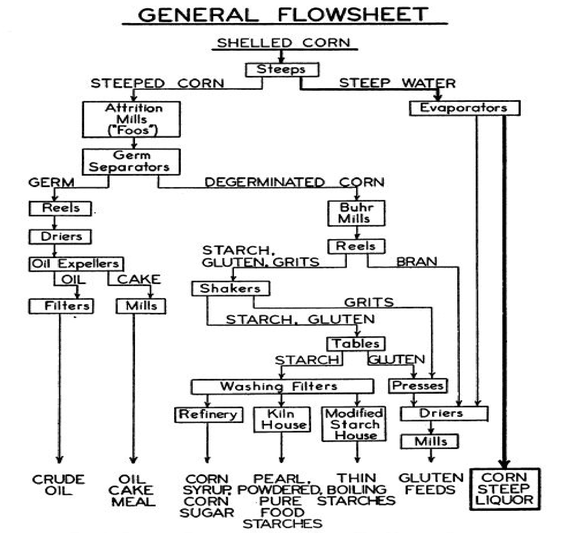


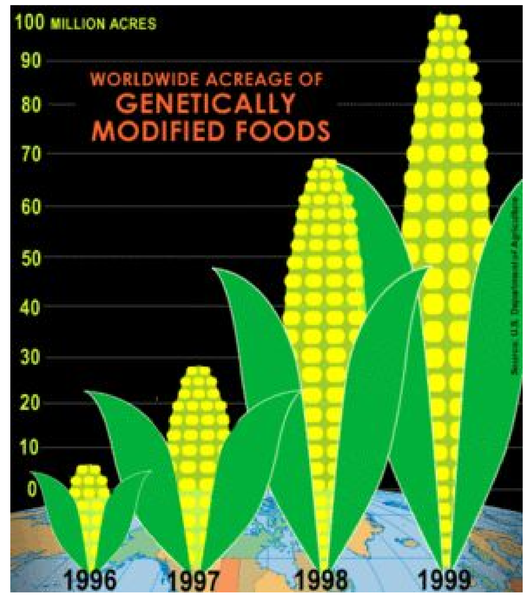
FIG. 1. GENERAL FLOWSHEET OF THE CORN WET-MILLING PROCESS
The flow of water is counter-current to the flow of materials as shown in the diagram. To maintain the water balance in the plant, water may be in process and storage for as long as two weeks. The water in the evaporator may come from any stage of the process.

Ancient Uses:
- Headaches
- Diuretic
- Paste for bruises

1900s:
- Corn Steep Liquor
  - Arno Behr
  - Penecillin Production

2000s
- Corn Silk
  - Diuretic
  - Antioxidant
  - Antiproliferative
  - Many more still under research

Genetically Modified Sweet Corn:



History:
- 1972-1973: GMO's created
- 1988: First GM food
- Present: Almost 50% of sweet corn is GM

Current Genetic Modifications:
- herbicide resistant
- produce own insecticide
- high quality product

Future GM's:
- Nutrition
  - Vitamins and minerals
  - Protein
  - Fat and carbohydrates