



SUGARCANE PROCESSING



AATMANIRBHAR BHARAT

**PM Formalisation of Micro Food Processing
Enterprises Scheme (PM FME Scheme)**



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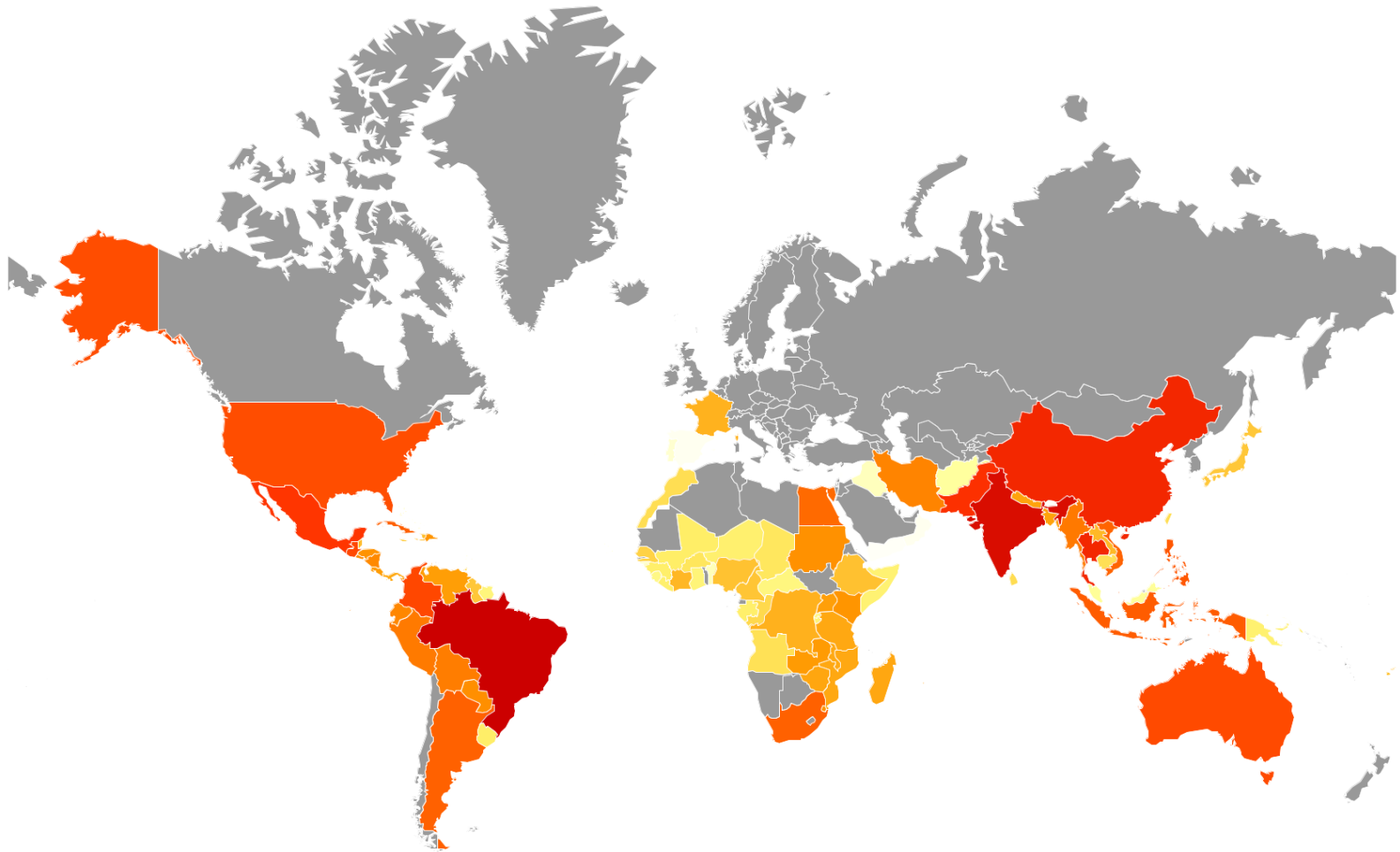


- Sugarcane is the world's largest crop by production quantity.
- 1.8 billion tonnes produced in 2017.
- Brazil accounting for 40% of the world total production.
- Cultivated in more than 90 countries.
- Scientific Name : [Saccharum officinarum](#)
- Sugarcane accounts for 79% of sugar produced.



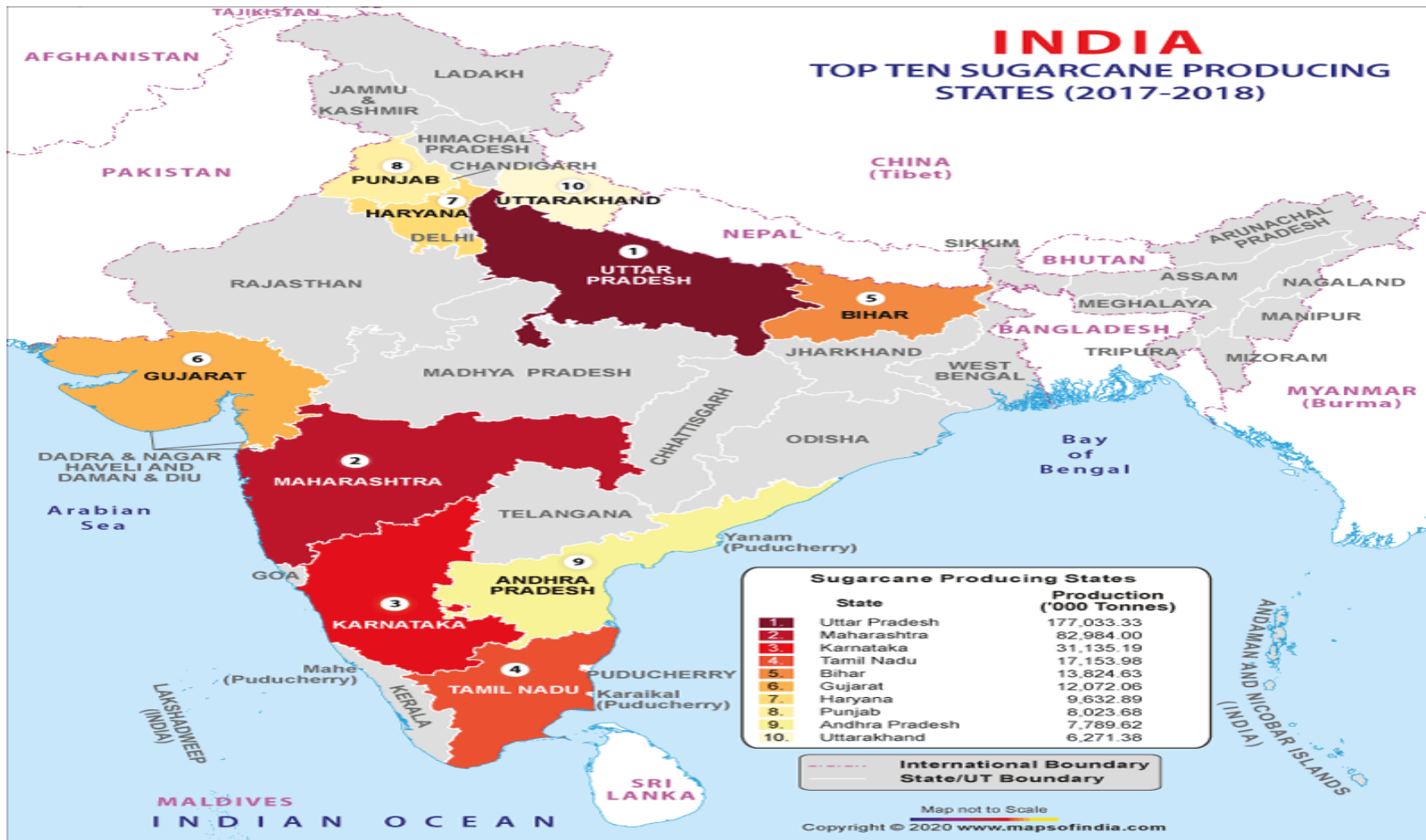


WORLD SUGARCANE PRODUCTION MAP





INDIA SUGARCANE PRODUCTION STATES



DESCRIPTION

- It grows 3 to 4 m (10 to 13 ft) high and about 5 cm (2 in) in diameter.
- The stems grow into cane stalk which, when mature, constitutes around 75% of the entire plant.
- A mature stalk is typically composed of 11–16% fiber, 12–16% soluble sugars, 2–3% non-sugars, and 63–73% water.
- The average yield of cane stalk is 60–70 tonnes per hectare (24–28 long ton/acre; 27–31 short ton/acre) per year.
- Sugarcane is a cash crop, but it is also used as livestock fodder.





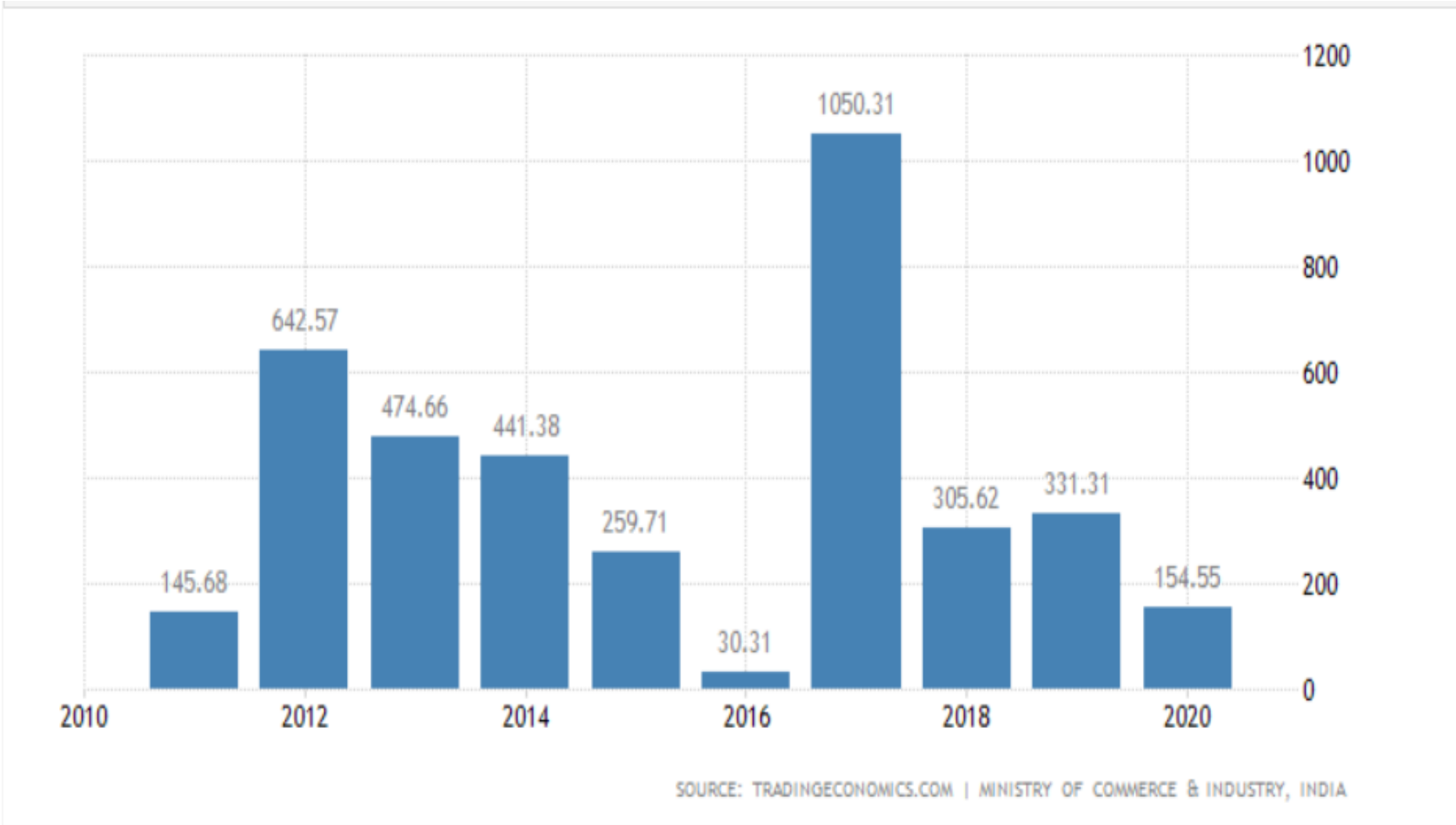
GLOBAL EMERGING TRENDS OF SUGAR

- Global sugar demand will increase to 198 mn tonnes in 2021 compared with 168mn tonnes in 2010.
- Asia will remain the biggest consumer of sugar.
- By 2030, India and China will constitute 17.6% and 14.7% of the total global consumption.
- Africa will begin to emerge as a major consumer, increasing its contribution in global consumption from 9% to 13% in 2030.





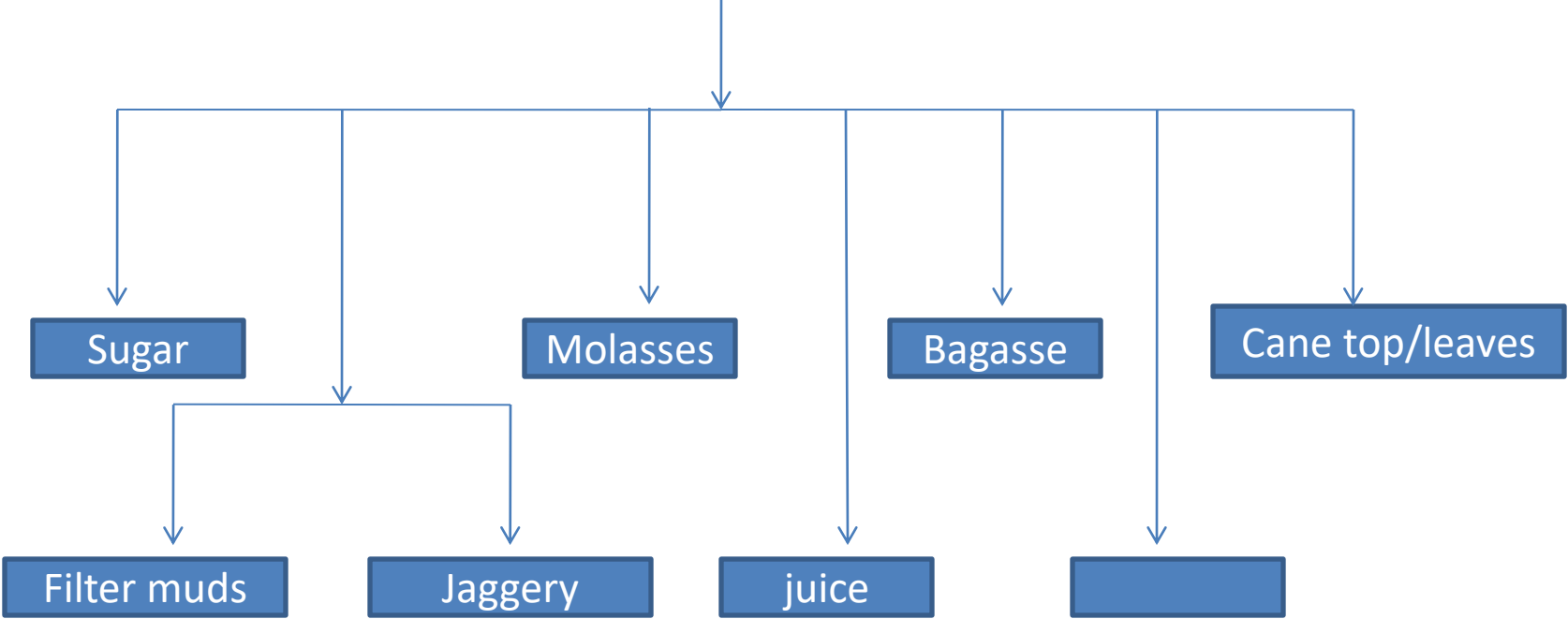
CURRENT SUGAR IMPORT SCENARIO IN INDIA





SUGARCANE PRODUCTS

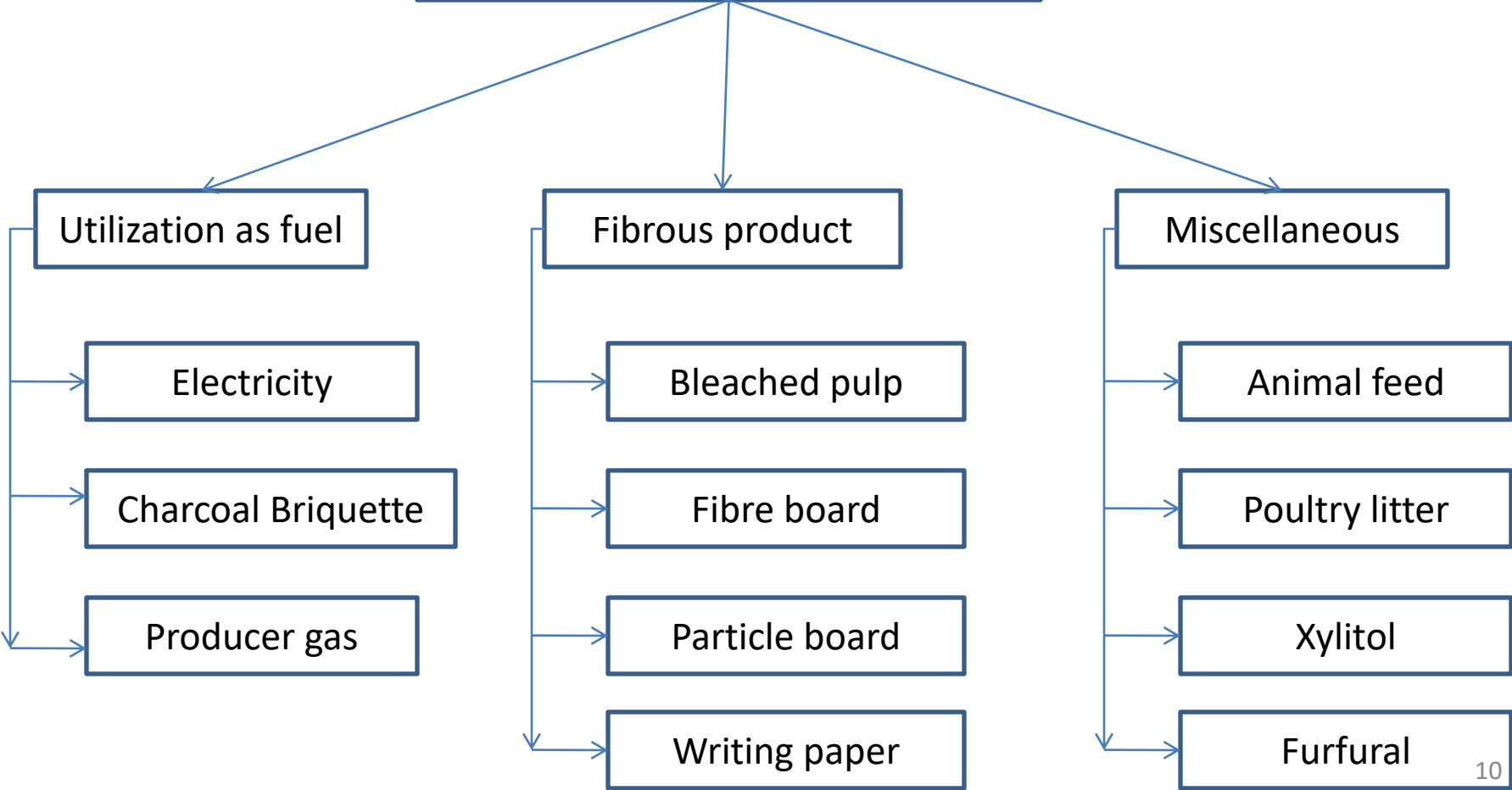
Sugarcane products and processing by-products





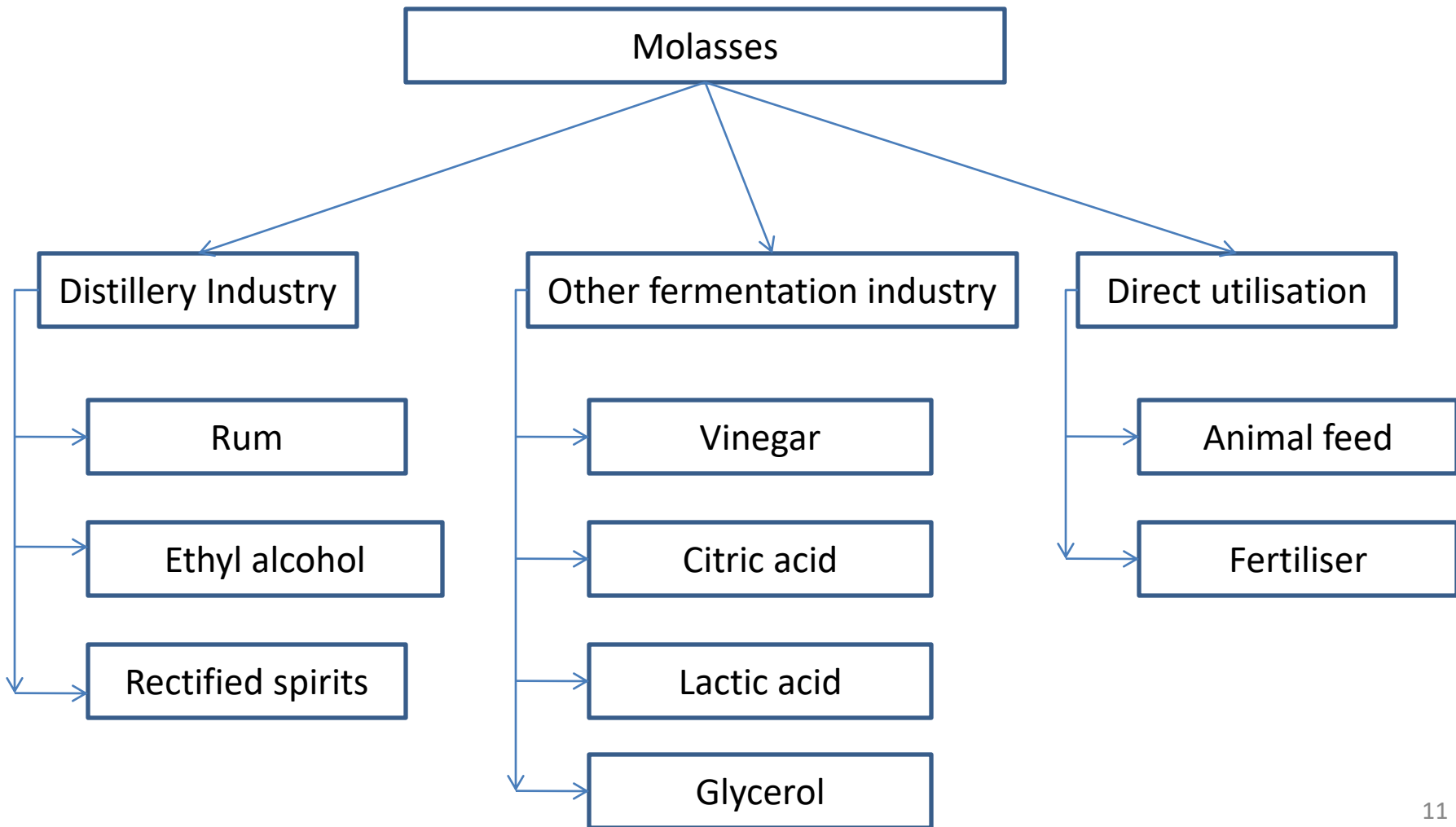
SUGARCANE PRODUCTS

Bagasse



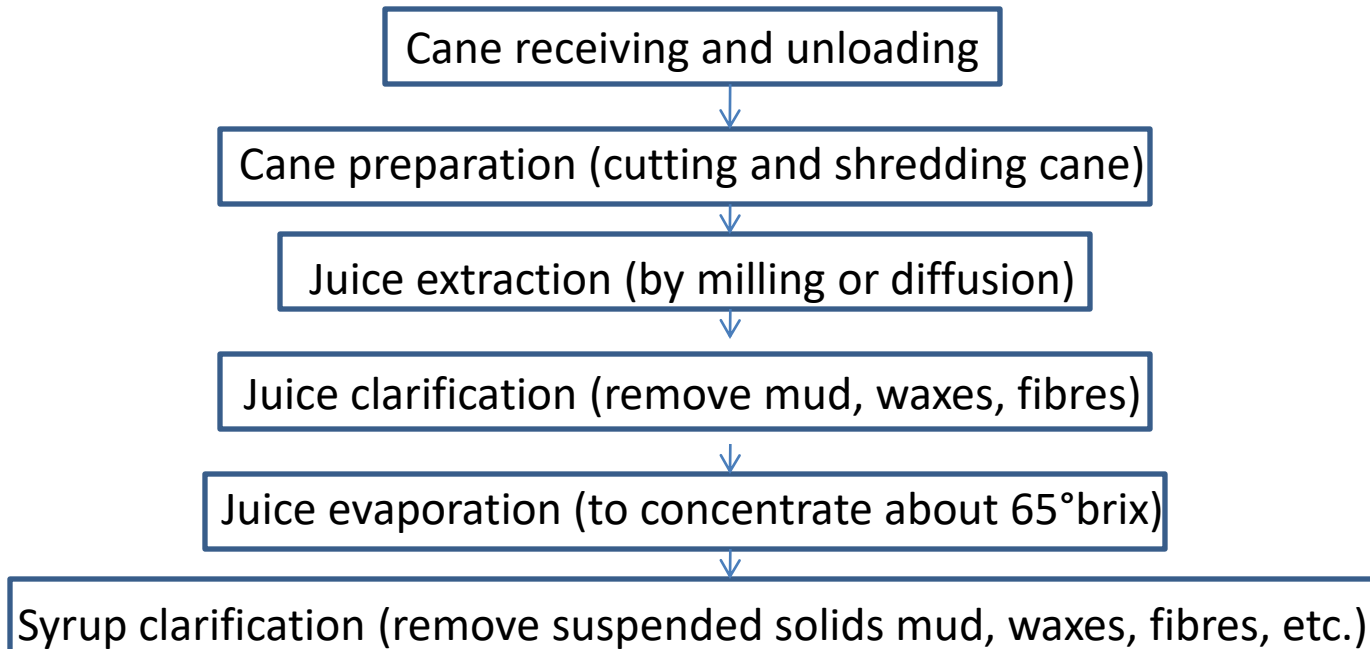


SUGARCANE PRODUCTS





1. SUGAR : PROCESSING STEPS





SUGAR : PROCESSING STEPS CONTD..

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Centrifugation (Separation of the sugar crystals from the mother liquor)

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Sugar drying

↓

Packaging and delivery





SUGARCANE JUICE

- Sugarcane juice can be preserved in bottles for a period up to six months.
- Process of preservation is mainly by pasteurization and bottling.
- Preservative used - Sodium Benzoate @ 125 ppm.
- Shelf life of 6 months at room temperature with quality and flavour maintained.
- The cost of production is economical.
- Consumer acceptance of juice is fairly good.





SUGARCANE JUICE MACHINERY





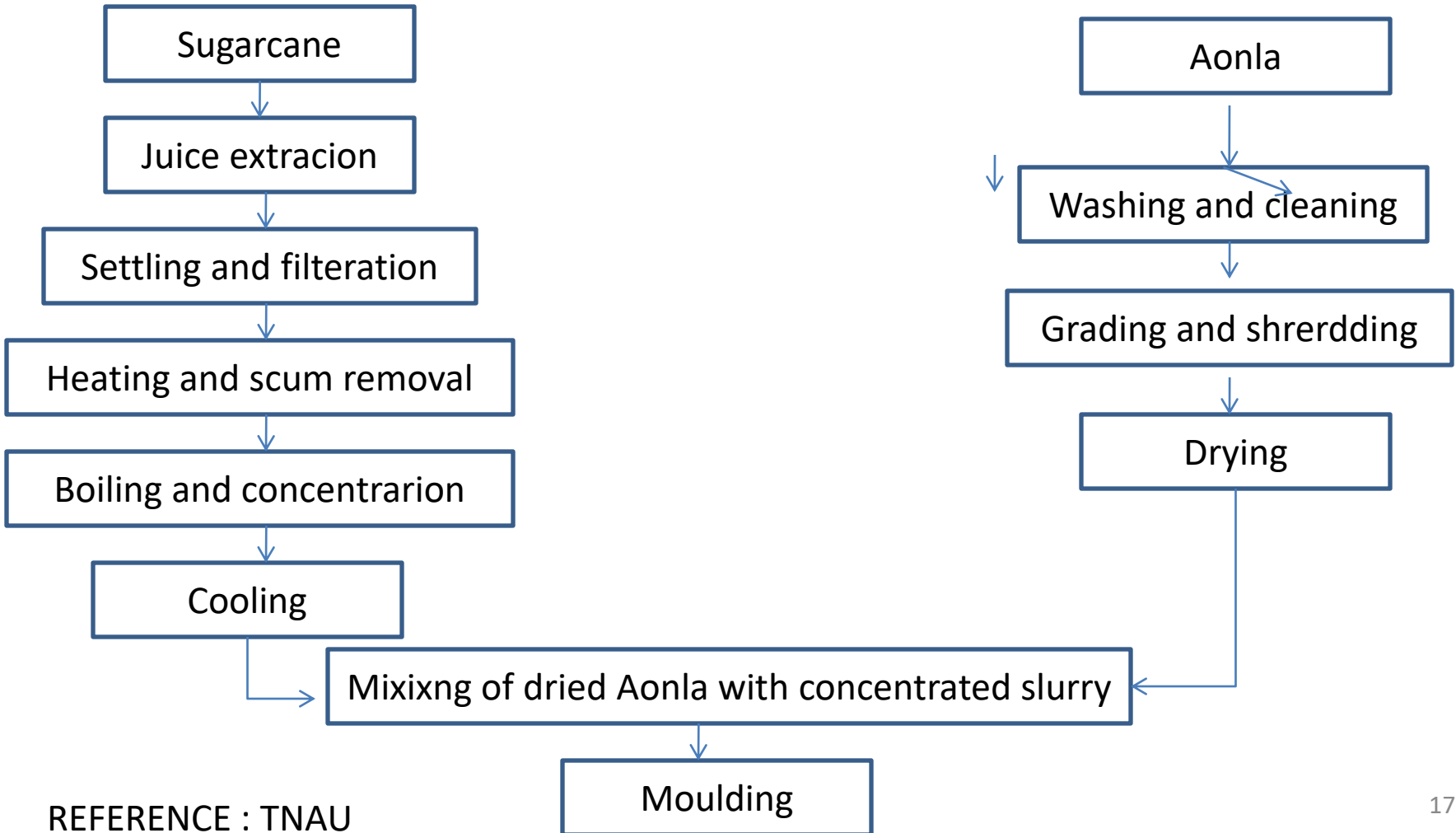
NUTRINALLY RICH JAGGERY

- Jaggery is common food prepared from sugarcane.
- Widely available in indian market.
- A rich and natural source of vitamin C i.e. Aonla added in Jaggery.
- Lead to enhancing nutrititonal value and fight malnutrititon also.
- Should be added in suitable form and quantity and at a proper stage of jaggery preparation.
- Value-added jaggery cubes and bars have been prepared.



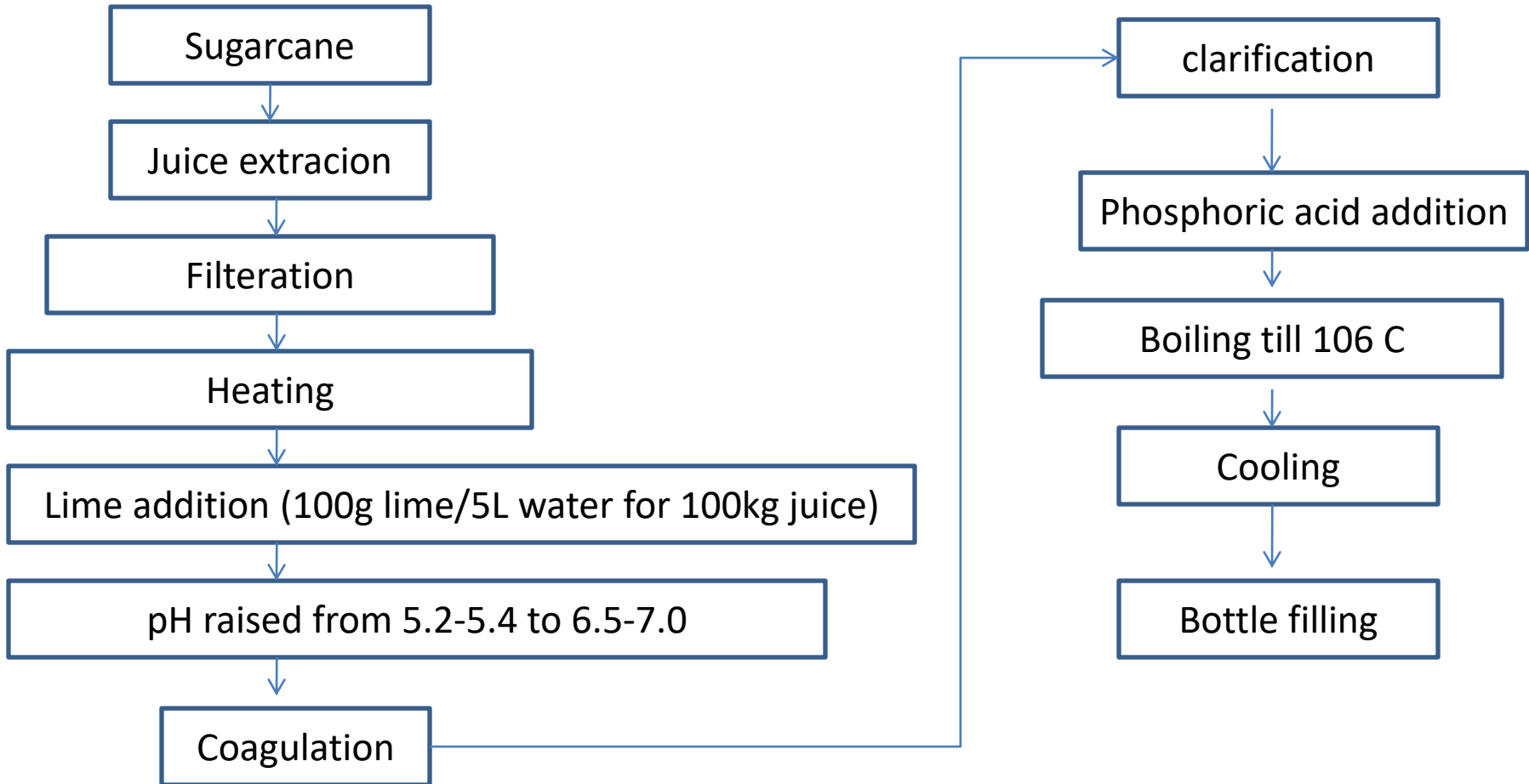


PROCESS





LIQUID JAGGERY



REFERENCE : IISR

citric acid @ 0.04% and or 0.5% benzoic acid help in preventing crystallization and increasing shelf life

Baggase

Dry pulpy fibrous material left after extracting juice.

Chemical composition of baggase :

- Cellulose: 45–55%
- Hemicellulose: 20–25%
- Lignin: 18–24%
- Ash: 1–4%
- Waxes: <1%

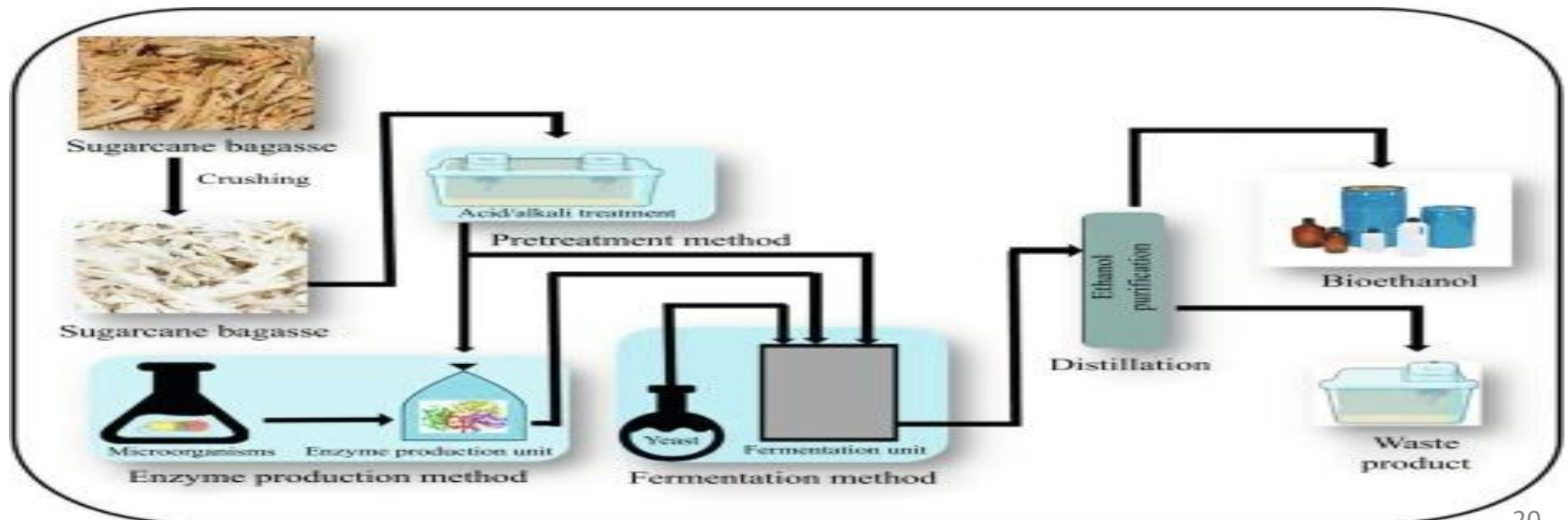


BAGGASE PROCESSING

Baggase is a important by product of sugarcane industry as some very important chemical compounds can be obtained from its processing. As we know ethanol is an very important commercially chemical compound. From baggase it can be obtained either by:

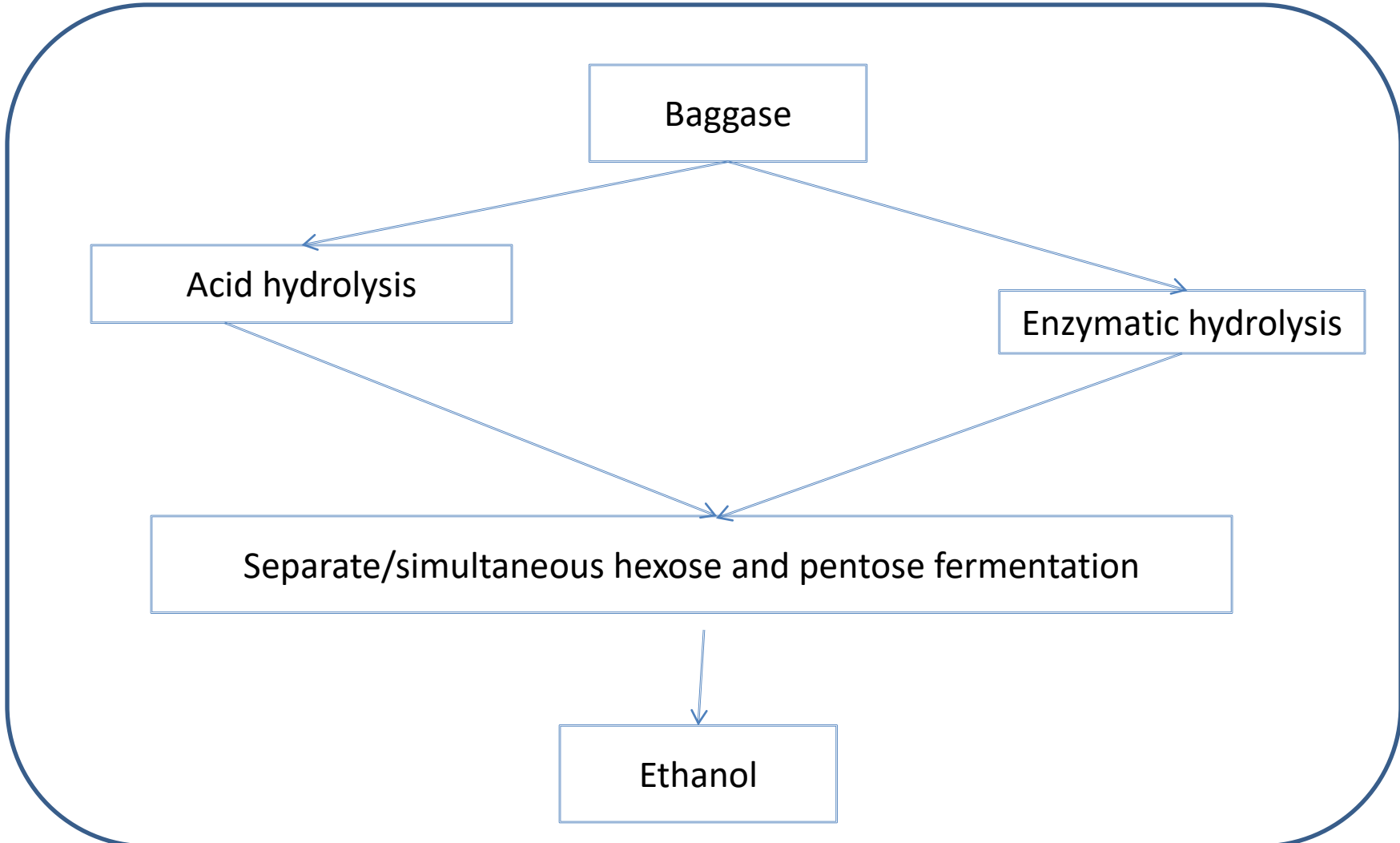
1. Acid hydrolysis.
2. Enzymatic hydrolysis.

By this hydrolysis we got hexose and pentoses which further decomposes down to yield ethanol by fermentation.





BAGGASE PROCESSING



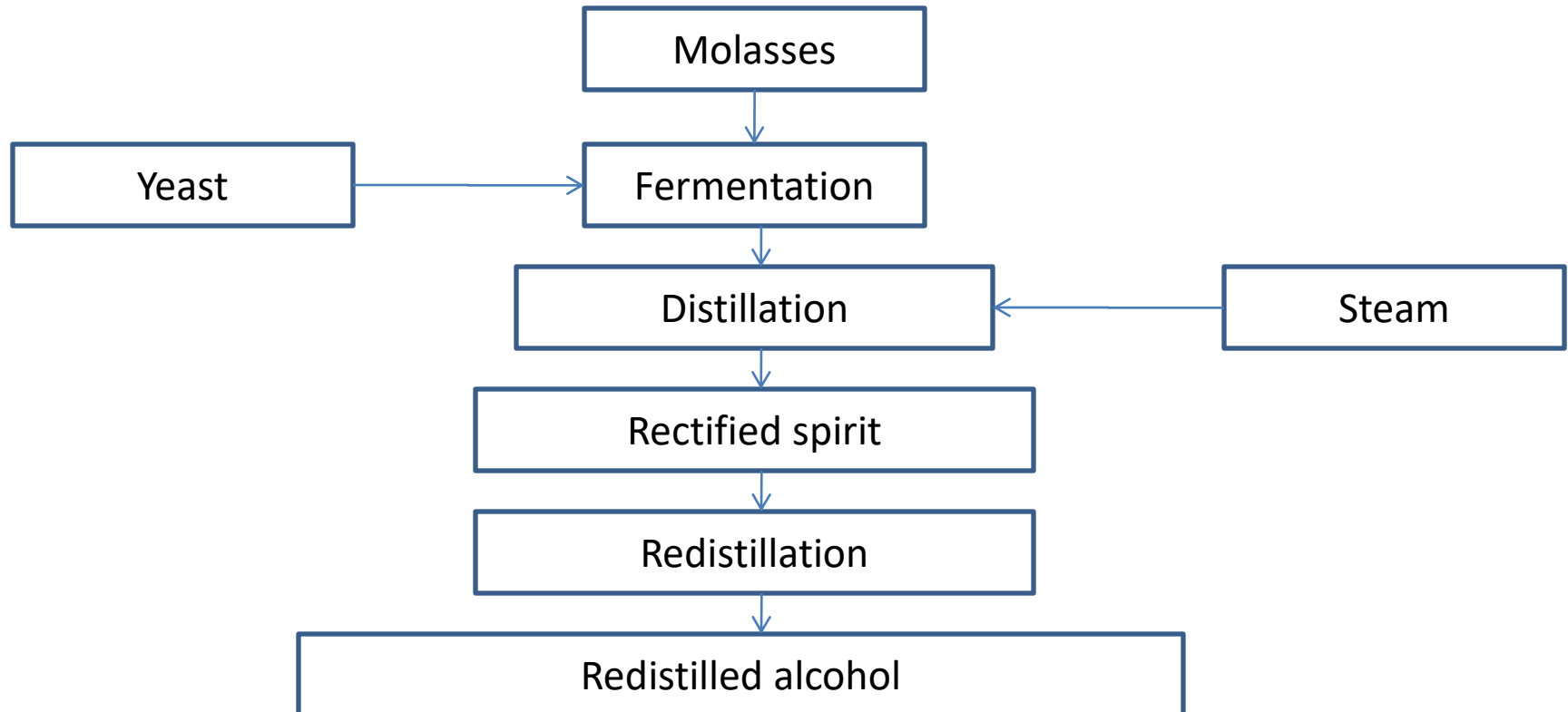
MOLASSES

- Molasses is the final effluent obtained in the preparation of sugar by repeated crystallisation.
- It is residual syrup from which no sugar can be crystallised.
- It's yield is 3%/tonne of cane sugar.
- Many products of economic importance can be prepared from Molasses after processing.
- It can be used in animal feed also.





ALCOHOL FROM MOLASSES





OTHER PRODUCTS FROM SUGARCANE



Ready to eat peeled sugarcane stalks



Fresh sugarcane stalk supply



For More details Contact:

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