Sugarcane

Plant selection

2 weeks before seedling

Sugarcane varieties

It is important to choose a variety that is adapted to your soil and climatic conditions. If you have a history of pest and diseases in your crop and field, consider a variety that is resistant or tolerant. Here are some recommended varieties:

- CO 86032 is a hybrid variety that is resistant to smut, wilt, and red rot disease. It is a medium-thick pink cane with ivory marks on the internodes. It is suitable for October and January/February planting. Ratooning provides excellent yields. Not suitable for water-logged conditions.
- COC 671 is an early-maturing variety that produces a thick cane. It is susceptible to red rot disease and should only be grown in areas that are free of red rot. It is also susceptible to smut, grassy shoot, and stem borer.
- CO 94012 is an early, high-sugared and high-yielding variety with high CCS (commercial cane sugar) yield. CO 94012 is a somaclonal variant of COC 671, with better sucrose content and moderate resistance to red rot and smut diseases.

Healthy plant material

For the seed material of your main field, use cane that is erect and healthy and no more than 10-12 months old.
The top 30-50% of a cane should be used for sowing as it has more buds with high viability for germination. The lower portion of the cane is high in sugar, making it less suited for germination, but better for jaggery-making.
Ratooning is not recommended for seed material as it may carry diseases from the previous season.

Planting

1 week before seedling

Cane sett treatments

The most effective way to reduce losses in your crop is to avoid diseases. Here are several treatment options to protect sugarcane setts from soil-borne diseases.

- Dip setts for 10-15 minutes in a solution of either 0.1% Carbendazim 50% WP (10 grams in 10 liters of water) or a solution of 0.05% of Triadimefon 25% WP (5 grams in 10 liters of water).

- If setts are infected with scale insects or woolly aphids, dip them for 10-15 minutes in a solution of 27ml Dimethoate 30% EC in 10 litres of water.
- If fresh setts are not available, dip older setts in a solution of 500g lime in 200 litres of water for 12-24 hours.
- To increase biological nitrogen fixation and solubility of phosphatic fertilizers, treat setts with Azotobacter and phosphate solubilizing inoculants. For one hectare, dissolve 10kg Azotobacter and 10kg phosphate-solubilizing inoculant in 100 litres of water.
  Dip setts in this solution for 10-15 minutes, then dry them in the shade prior to planting.
- Always follow the recommended dosage rates and dilutions for products.
- Wear protective clothing and gloves when handling and applying products to avoid contamination and to protect yourself.

Week 1

Plant your sugarcane setts

Here are a few tips for planting sugarcane setts:

- Based on sugarcane planting material, use 2 to 3 budded setts.
- For 3 budded setts, plant 25,000- 30,000 setts/ha or 10,000-15,000 setts/acre.
- Distribute setts in your field.
- Place the setts in the furrows in the same lateral position.
- Press sett lightly into the soil and avoid overexposure to the sun.
- Cover with soil as soon as possible and irrigate copiously.
- In the case of heavy soils, furrows can be irrigated prior to planting, creating a slurry in which the setts are placed.
- Plant extra setts every 10th row to have plants for gap filling 30 days later.

Plant training

Week 17

Trying up your crop

To prevent lodging, use the dead leaves to tie the crop together. The leaves are removed and used to tie up all the canes from one stand into a bundle. This helps air circulate between the rows. Tie up your crop when it reaches about 2 meters in height. Do not use the green healthy leaves for this operation.

Monitoring

Week 24

Monitor fields frequently

Monitor the growth of your crop often. Walk through your field in a random manner or zigzag and check for signs of diseases, pests, or deficiencies. Deficiencies are characterized by the discoloration of leaves and the poor vigor of the plants. Diseases are often visible as discoloration and spots or streaks on leaves. Finally, remember that most of the insects present in the field are beneficial for your crop. Those that attack your crop will leave behind damage on leaves and buds in the form of holes. Make sure to talk to your neighbors and exchange information about current diseases with your local community. Also, seek support with public extension services in your area.

Site selection

3 weeks before seeding

Soil and climate conditions

Suitable soils for sugarcane cultivation have the following characteristics:

- medium to fine texture
- greater than one meter in depth
- pH between 6.5 and 8.0

Suitable climate conditions include:

- rainfall up to 1500mm
- 27-38°C for optimum growth
- high humidity (80-85%)
- high sunlight exposure (7-9 hours)

Field preparation

3 weeks before seedling

Prepare a clean field

When preparing the fields, make sure to follow the recommendations listed below:

- Carry out a good plowing with tine attachment or rotavator at a depth of 35 cm to incorporate the remaining plant's debris and weeds into the soil.
- Collect small stones, weeds, and crop stubble to facilitate good seed-soil contact at sowing.
- Later on, harrow 3-5 times to reduce clod size and compaction, and obtain a fine tilth.
- Level and drain the field properly to avoid flooding problems later in the season.
- Prepare furrows spaced 60-100 cm apart for optimum growth.

- Divide field in plots at your convenience to facilitate the irrigation.

Week 7

Earthing up operation

Earthing-up is also known as "hilling-up". There are multiple benefits to this practice which should be done two to three times.

- It improves overall root conditions and prevents lodging.
- It prevents further tillering and water shoots (late-formed tillers or side shoots) formation.
- It helps to control weeds.

Timing and method:

- The first earthing-up is a partial operation done 45 days after planting. The partial earthing is done by removing a small amount of soil from either side of the furrow and placing around the base of the shoots.
- The second and third operations are full earthing-up operations. It is done at 120 days after planting (at the peak tiller population stage) and at 180 days after planting. During full earthing-up, the soil from the ridge in between is fully removed and placed near the cane on either side.
- This operation is done either manually or by using a bullock-drawn/tractor-drawn furrow maker depending upon the row spacing.

Mulching your fields

In sugarcane, the dead dry leaves (trash mulch) can be used as mulch 45 days after planting at 2 tons/acre (5 tons/ha).
Mulching is an important practice with the following benefits:

- Conserves water by reducing evaporation losses through the soil, increasing the irrigation interval by 15-21 days.
- Suppresses weeds and thus reduce costs.
- Adds organic matter content and nutrients to the soil.
- Facilitates solarization to reduce soilborne pathogens.

Week 45

Sugarcane trash mulching

The alternative to burning sugarcane trash is to conserve it and transform it into high-quality mulch for your ratoon crop. This mulch is an excellent material for suppressing weeds and a source of organic matter and nutrients to improve your soil. Here are the steps to follow:

- Irrigate your field to completely soak the cane trash.
  This will soften trash and help for easy handling.
- Place sugarcane trash in alternate rows for the following ratoon as mulch, in un-mulched rows.

- Broadcast of 30 kg/acre urea over the sugarcane trash or use cow urine which contains ammonia. This will help the trash decompose faster.
- In addition, apply 200 kg/acre of farmyard manure enriched with 12 kg/acre of microbial culture (Trichoderma viridae) on sugarcane trash; this will also help enhance decomposition rate.
- Do not use trash that could be contaminated with diseases.

Weeding

Week 1

Proper use of pre emergence herbicides

- Pre-emergence application of herbicide in sugarcane is done as a blanket spray 3 to 4 days after planting.
- Atrazine can be used in solo crop sugarcane. The recommended dosage for Atrazine 50 WP is 1 kg/ acre.
- Herbicides are poisonous to humans and animals.
- Label them clearly and keep them out of children's reach.
- Remember to wear proper protective equipment (i.e., gloves, breathing mask, goggles, and protective clothing) when spraying.
- Always mix clean water with herbicides before application.
- Refrain from using muddy water, as this reduces herbicide efficacy.
- Ensure that all equipment, such as spray tanks, booms, and nozzles, are well-cleaned after every use.
- Do not mix different herbicides together unless recommended.
- Apply herbicides at the recommended dose.

Week 7

Timely weed management

- Weed your fields on time to reduce competition and increase your yield.
- Within 6-8 weeks of planting, conduct hand weeding 1-2 times and hoeing one time.
- Prior to second nitrogen fertilizer application (12-16 weeks after planting), conduct one more hoeing and hand weeding.

Week 9

Chemical weed management

- Post-emergence herbicides can be effective for the control of weed growth when labour for hand-weeding is not available.
- 8-10 weeks after planting, you can apply 2, 4-D Sodium salt 80 WSP at 0.5 kg/ acre can be used to control weeds.
- Herbicides are poisonous to humans and animals.
- Label them clearly and keep them out of children's reach.
- Remember to wear proper protective equipment (i.e., gloves, breathing mask, goggles, and protective clothing) when spraying.
- Always mix clean water with herbicides before application.
- Refrain from using muddy water, as this reduces herbicide efficacy.
- Ensure that all equipment, such as spray tanks, booms, and nozzles, are well-cleaned after every use.
- Do not mix different herbicides together unless recommended.
- Apply herbicides at the recommended dose.

Irrigation

Week 1

Irrigation intervals throughput the season

Irrigation should occur at different intervals throughout the season:

- Germination (1st month): weekly intervals
- Tillering (2nd and 3rd month): 10-day intervals
- Formative and grand growth (4th through the 9th month): weekly intervals
- When mulching, intervals can be increased depending on soil and climatic conditions.

Fertilization organic

Week 1

Biofertilizers for sugarcane

Biofertilizers contain living microbes, generally bacteria and/or fungi helping make plant nutrients more available to the plants. Consider the following biofertilizers to apply at planting (0-4 weeks) at a rate of 4-5kg/acre:

- Acetobacter
- Azotobacter
- Azospirillum

- Gluconacetobacter
- Phosphate solubilizing bacteria (PSB)

Biofertilizers can be used as a sett treatment or as a soil treatment:
• Set treatment: For 1 acre, mix thoroughly 5 kg biofertilizer in 100 litres of water. Treat cane sett by dipping in the setts in this suspension before planting.

- Soil Treatment: For 1 acre, mix 5 kg of biofertilizer in 10 litres of water and mix with 80-100 kg of FYM. Sprinkle this mixture over the cane setts directly in the rows at the time of planting. Rows should then be Immediately covered with soil.
- Apply biofertilizers during morning hours.
- Store biofertilizers in cool, dry places.
- Biofertilizers should not be applied along with insecticides, fungicides and chemical fertilizers.
- Biofertilizers can be used after fungicide treatment.

Fertilization chemical

2 weeks before seedling

Overview of the fertilization plan

Balanced fertilization includes mineral fertilizers containing nitrogen (N), phosphorus (P) and potassium
(K) in the form of urea, SSP, and potash. Here are the details of these fertilization events and their timing:

- Total Urea: 351 kg/acre
- Total SSP: 430 kg/acre
- Total Potash: 114 kg/acre

The fertilization is divided into four applications:

- Basal application at sowing.
- First split application 6 weeks after sowing.
- Second split application 12 weeks after sowing.
- Third split application 25 weeks after sowing.

1 week before seedling

Fertigation plan

Fertigation describes the process of fertilization through a drip irrigation system. Fertigation ensures that the essential nutrients Nitrogen (N), Phosphorus (P) and Potassium (K) are supplied precisely at the area of most intensive root activity according to the specific requirements of sugarcane crop and type of soil, resulting in higher cane yields and sugar recovery.

A balanced fertilization plan through drip irrigation includes 200 kg N/ha, 92 kg P/ha, and 92 kg K/ha during the first year. This is divided into four separate applications throughout the season. Here are the recommended quantities and timing of these applications:

- 1-4 weeks after sowing, apply 30 kg N /ha, 9 kg P /ha, 9 kg K/ha.
- 5-9 weeks after sowing, apply 70 kg N /ha, 32 kg P /ha, 14 kg K/ha.
- 10-12 weeks after sowing, apply 100 kg N /ha, 50 kg P / ha, 32 kg K /ha.
- 21-26 weeks after sowing, apply 37 kg K /ha.

Week 1

Basal fertilization for sugarcane

Basal fertilization for sugarcane should be applied along the furrows and incorporated well during planting. The recommended dosages are as follows:

- Urea: 35 kg/acre
- SSP: 215 kg/acre
- Potash: 57 kg/acre

In the case of deficiencies, the addition of micronutrients should also be done with the basal application.

- Ferrous sulphate: 10 kg/acre
- Magnesium sulfate: 4 kg/acre
- Boron: 2 kg/acre

Week 7

First split fertilizer application

The first split application for sugarcane should be applied six weeks after sowing, in bands on either side of the cane row or broadcasted. The recommended dosage for Urea is 141 kg/acre. SSP and Potash do not need to be applied in this split.

Week 13

Second split application for sugarcane

The second split application should be applied 12 weeks after sowing, in bands on either side of the cane row.
Urea should be applied at a rate of 35 kg/acre. SSP and Potash do not need to be applied in this split.

Week 26

Third split fertilization application for sugarcane

The third split application should be applied 25 weeks after sowing, in bands on either side of the cane row.

The recommended dosages are as follows:

- Urea: 141 kg/acre
- SSP: 215 kg/acre
- Potash: 57 kg/acre

Preventive measure

Week 2

Prevent termites in your fields

Symptoms of termites include wilting of young or older plants and often lodging and presence of termites and tunnels around and in the roots. Roots and the base of the stem are also hollowed out. To prevent termites in wheat, be sure to:

- Inspect plants regularly, early in the morning or late in the afternoon.
- Remove and destroy affected plants or part plants.
- Promote conditions for healthy plant growth, for example, balanced fertilization.
- Avoid water stress and unnecessary injury to the plants.
- Harvest early if possible, as termites often attack the crops left over in the field after maturity.
- Remove plant residues and other debris after harvest.
- Plow fields to destroy termites' nests and tunnels and to expose them to predators, such as ants, birds, chickens.
- Practice crop rotations or grow in fields with intercrops.

Week 3

Prevent smut of sugarcane in your crop

This fungal disease prefers warm and humid conditions.
The spores of the disease spread by wind, insects, and planting material.
The most recognizable characteristic of this disease is a black or grey growth that has the form of a whip. It starts at the growing point of sugarcane and can extended above the top of the infected plant. After the spores are released, only the center of this whip-like structure remains. The growth of the plant is stunted and the leaves are thin and stiff.
To prevent smut of sugarcane in your crop, be sure to:

- Implement crop rotation.
- Treat breeder seed production before planting using moist hot air treatment at 54°C for 150 minutes or hot water treatment at 50°C for 2 hours.

Week 5

Prevent red rot in your plants

Stems show large red blotches on the outside, and internal red rotten areas with white patches, when the stems are cut open. On the leaves, small red oval spots occur on the midrib and upper surface of the leaf; these develop pale yellow to white centers, sometimes merging to cover the length of the leaf. To prevent red rot in your crop, be sure to:

- Regularly monitor the field and rogue diseased plants.
- Remove any plant debris from the field. Practice crop rotations.
- Plough the fields several times to expose fungal material in the soil to sunlight.
- Avoid either very hot or cool temperatures during cultivation by controlled planting times.

Week 6

Prevent magnesium deficiency in your crops

Symptoms of magnesium deficiency begin with blotchy pale green or a yellowish pattern in the interveinal tissue of older leaves, often starting near the margin. Reddish or brown spots may appear on the leaf blade. Later on, these develop into dying areas in the highly-yellowed tissue. Premature death and early shedding of leaves.
Root growth is inhibited, resulting in poor plant vigor. To prevent magnesium deficiency in your crops, be sure to:

- Check the pH of the soil and lime if necessary to get the optimal range.
- Plan good drainage of fields and do not over water the crop.
- Do not over fertilize with potash.
- Use organic mulch to keep soil moisture stable.

Week 7

Prevent violet stemborer in your maize and sorghum plants

Exit holes of caterpillars can be observed on stems and ears. Wilting and sometimes lodging of the affected plants. When opened longitudinally, the stems show 'dead hearts' symptoms. Mature plants show 'white ears', that is chaffy, erect ear heads.
To prevent violent stemborer in maize, be sure to:

- Monitor the fields regularly and remove infected plant parts.
- Ensure an adequate level of nitrogen and timely application.
- Pull out weeds in and around the field.
- Ensure good water management during the season.
- Remove and destroy crop debris after harvest.
- Plan a long-term crop rotation with non-host plants.

Week 8

Prevent phosphorus deficiency in your sugarcane plants

The symptoms are not very striking, so they can be difficult to identify. Plant growth is dwarfed or stunted, but the plants still remain in an upright position. The stems, petioles and the lower sides of leaves show a dark-green to purple pigmentation. The stems are thinner and the leaves acquire a leathery texture and tend to curl upwards, sometimes shedding prematurely.
To prevent phosphorus deficiency, be sure to:

- Monitor the fields for signs of this disorder.
- Ensure a balanced and efficient fertilization of the crop.
- Use an integrated approach with mineral and organic fertilizers.
- Incorporate plant residues into the soil after harvest.
- Lime the soils, if necessary, to reach the appropriate soil pH for the next season.

Week 9

Prevent mealybugs in your plants

The presence of mealybugs is visible as white cottony masses on the underside of leaves, stems, flowers, and fruits. Fruits may become deformed or completely coated by wax secretions. The honeydew that they excrete favors the growth of sooty molds. To prevent mealybugs in your fields, make sure to:

- Monitor the field regularly for signs of their presence.
- Remove and destroy infested plant parts or plants.
- Clean the fields and the surrounding area of weeds.
- Take great care not to spread the insect during fieldwork.
- Avoid broad-range insecticides to encourage beneficial insects.
- Avoid flood irrigation and do not over-fertilize.
- Control ants with sticky bands on the trunk or branches.
- Disinfect equipment and tools after fieldwork.
- Plan a crop rotation with non-susceptible plants.

Week 10

Prevent potassium deficiency in your plants

Symptoms include tip burn and later yellowing on the leaf blade. In severe cases, these patches turn into a dry, leathery tan scorch that usually progresses from the leaf edge to the midrib. The main veins remain green. Plants may have shorter internodes, bushy aspect and stunted growth. To prevent potassium deficiency in maize plants, be sure to:

- Monitor fields for signs of this disorder.
- Water plants regularly and avoid flooding of fields.
- Ensure a balanced use of fertilizers to secure a proper nutrients supply to the plant
- Check the pH of the soil at the end of the season and lime if necessary to get the optimal range.

- Add organic matter to the soil in the form of manure or plant mulch.

Week 11

Prevent sugarcane white grubs in your fields

Both adults and larvae damage the plants. Grubs feed on small roots and nodules. Over time, leaves will turn brown and the maturing stalks deteriorate. Plants may lodge during bad weather. Larvae may tunnel into the cane stalks.
To prevent white grubs in your crop, make sure to:

- Monitor fields for signs of the pest.
- Use traps to assess numbers or simply mass-catch adults or simply collect beetles or grubs by hand.
- Use trap trees to attract adults and pick them up by hand.
- Ensure soil fertility with right fertilizer balance.
- Do not use broad-spectrum insecticides that kill beneficial insects.
- Carry out a deep plow to bury debris, favor their decomposition and expose grubs to predators.
- Remove residues and stubble after harvest and burn them.
- Leave the field fallow some weeks after harvest to break the life cycle of the grubs.
- Rotate with non-host crops such as legumes.

Week 12

Prevent grassy shoot of sugarcane

The disease is caused by bacteria-like organisms called phytoplasma. The main transmission of the phytoplasma is through infested seed material (setts). First symptoms appear in a juvenile stage when the crop is of 3-4 months age. Young leaves become pale in colour and appear thin and narrow. As the disease progresses, all new tillers grow white or yellow, giving the plant a grassy appearance.
To prevent grassy shoot of sugarcane in your crop, make sure to:

- Monitor your field regularly for symptoms of the disease and/or the insect.
- If you detect affected plants within two weeks after planting, you can still replace them with healthy plants.
- Remove affected plants and destroy them immediately by burning.
- Use yellow sticky traps to control insect vectors like aphids.
- Crop rotation may reduce inoculum in your field.

Week 13

Prevent yellow leaf virus

Infection by sugarcane yellow leaf virus causes severe symptoms including stunted cane growth, discolouration of leaves, and bunchy appearance of the plant.
To prevent yellow leaf virus in sugarcane, make sure to:

- Use yellow sticky traps for the control of aphid which is a vector of the virus.
- Strip off mature leaves regularly, as aphids prefer to colonize them more often.

Week 14

Prevent sugarcane pyrilla

Damage is caused by the adults of Pyrilla perpusilla, a very active plant hopper that breeds throughout the year and may migrate from field to field, causing major damage. Adults are greenish to straw-coloured and about 7-8 mm in length. The pest is found on the underside of the leaves where they suck the plant sap.
This causes the yellowing first and then the drying of leaves. Hoppers also secrete a sweet substance called honeydew that coats the leaves. This attracts opportunistic fungi whose growth blackens the leaf blade.
To prevent sugarcane pyrilla in your crop, make sure to:

- Monitor the field regularly for symptoms of the pest.
- Remove infected plants after harvest and burn them.
- Do not use broad-range insecticides as this can affect negatively beneficial insects.

Week 15

Prevent early shoot borer in your crops

Caterpillars of the shoot borer are a serious problem in this crop. The symptoms appear after the adult females lay white flat eggs in large groups of 60 eggs in many rows under the leaf. One to six days later the eggs hatch and the larvae scatter and enter the stem by making a hole just above the ground level. One to 3 months old crops are highly susceptible.
To prevent early shoot borer in your crops, make sure to:

- Use pheromone sleeve traps or light traps to catch the moths.
- Remove and destroy dried shoots and other crop residues after harvest.
- Intercropping with green gram, black gram, daincha (Agathi) also helps to repel the adults.
- Avoid excessive use of nitrogen fertilizers.

Plant protection chemical

1 week before seedling

Increase sugar content

To increase the sugar content in cane (brix value), consider the following recommendations:

- Ensure field is free of pests and diseases prior to planting.
- Space plants properly for maximum sunlight exposure.
- During the first six months, ensure that nutrient levels are sufficient, particularly for potassium, magnesium, and sulfur.
- At 6 months after planting, spray crop foliage with sodium metasilicate at 1.6 kg/ac in 300 liters of water.
  Repeat spraying at 8 and 10 months.
- Harvest sugarcane at the right time. Sugar content decreases when it over-matures.
- Lowest internodes have the highest sugar concentration, so cut canes at ground level.

Harvesting

Week 48

Harvesting methods

Harvest your sugarcane on time to get the highest yields and sugar recovery.

- Sugarcane is harvested between 10 and 18 months, depending upon your region, the planting time and crop maturity.
- Harvesting too early or too late will lead to losses in yield.
- Assess the maturity with a hand refractometer to measure the Brix value.
- A value of 18-20% Brix indicates optimum maturity for harvest.

Hand harvesting can be done with a sickle.

- Cut stalks at ground level - the bottom internodes have the highest sugar content.
- Bundle both ends of the stalk with the cut leaf top.
- Manually-harvested canes and billets should be transported as soon as possible to the sugar mill.

Mechanical harvesting can be used to harvest 2.5 to 4 hectares in 8 hours.

- Mechanical harvesters move along the cane row, first cutting the leafy tops and then cutting the stalk into short pieces called "billets".
- Do not allow foreign matters such as soil, gravel, or other materials to be mixed with the harvested canes and billets.

Post harvest

Week 49

Jaggery preparation with chemical clarifiers

Here are the steps to transform your sugarcane into jaggery:

- Harvest sugarcane from the field, cutting off the head and tail.
- Transport harvested sugarcane in a plastic bag to the production facility.
- To extract the juice from the sugarcane, use a three-roller mill. Feed 4-5 canes at a time into the machine.
- Filter extracted juice with a cotton cloth or mesh screen.
- Boil extracted sugarcane juice in a large iron vessel (kadai). Keep the temperature between 70 and 80 degrees Celsius.
- Add lime, hydrous powder, and/or superphosphate in order to coagulate unwanted substances for filtering and to clarify the liquid.
- When using lime, mix 1 kg of 80-90% pure lime in 4 liters of water. Add this mixture to 100 liters of sugarcane juice.
- Continue to vigorously boil. Coagulated colloidal substances will continually rise to the top of the liquid (scum) - remove these substances continuously.
- Once all solids have been removed and liquid has become clarified, continue heating the juice until it reaches 110-115 degrees Celsius.
- This process can take 2-3 hours to complete.
- The clarified juice takes on a semi-fluid consistency. It is now ready to be transferred to rectangular containers.
- Let the liquid cool down as fast as possible. Use fans to help bring the temperature down faster.

Okra powder preparation for organic jaggery making

Organic preparation of sugarcane jaggery uses a powder made from wild okra plants (Abelmoschus esculentus) instead of chemical clarifiers. Here are the steps to produce this powder at home:

- Use okra plants that are 75-90 days old.
- Chop okra plant stalks into 2cm pieces.
- Dry pieces in a shed for 15-20 days.
- Grind dried pieces into a fine powder.
- Put powder through a 1mm sieve.
- Store okra powder in air-tight plastic containers.
- For jaggery processing, use 1.6 kg okra powder / 1000 liters of sugarcane juice.

Organic jaggery preparation

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- Transport harvested sugarcane in a plastic bag to the production facility.
- To extract the juice from the sugarcane, use a three-roller mill. Feed 4-5 canes at a time into the machine.
- Filter extracted juice with a cotton cloth or mesh screen.

- Boil extracted sugarcane juice in a large iron vessel (kadai). Keep the temperature between 70 and 80 degrees Celsius.
- Add okra powder to the juice in order to coagulate unwanted substances for filtering and to clarify the liquid. Use 1.6 kg of okra powder per 1000 liters of juice.
- Continue to vigorously boil. Coagulated colloidal substances will continually rise to the top of the liquid (scum) - remove these substances continuously.
- Once all solids have been removed and liquid has become clarified, continue heating the juice until it reaches 110-115 degrees Celsius.
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