

ROSELLE



Plant Profile

- Family** : *Malvaceae*
English name : **Hibiscus, Shoe-flower**
- Indian name** : **Lalambri, Patwa (Hindi)**
Pundi, Pundi gida (Kannada)
Colour Gonkura (Telugu)
Colour Pulichaikeeraj, Mandharam (Tamil)
- Species and** : *Hibiscus sabdariffa*

Uses

➤ Confectionery, Drugs, Colouring of foods and Wines

- It is becoming increasingly important because of the growth in the export as a source of natural dye and preparation of a popular soft drink from the dried calyces.
- The fresh calyces are used in culinary, confectionary and herbal drink.
- Medicinally it possesses diuretic, demulcent, emollient, laxative, antiseptic, antiscorbutic, antispasmodic and choloretic properties.
- The drug extract is also used to cure heart and nerve diseases, asthma, and skin diseases.
- The seeds are reported to have demulcent, diuretic and tonic properties, and are recommended in cases of dyspepsia, strangury and debility.

SOILS

- The plant is found under cultivation on large types of soils ranging from sandy to heavy clays.
- However, a well drained loamy soil with good quantity of organic matter is ideal for growing the crop.

CLIMATE

- It prefers a warm humid or dry climate with even rainfall of 150 to 200 cm per year and about 25 cm per month during the growing period.
- It can grow as dry rain fed crop or also as an irrigated crop, but it does not stand heavy and continuous rains, water logging, winter cold and frost.
- It is known to do well from locations at sea level to an elevation of 600-780 m.

VARIETIES

There are no named varieties available in this crop.

INPUTS

S.No.	Materials		Per acre	Per hectare
1.	Seeds (g)		1.0	2.5
2.	Farm Yard Manure (t)		5	12
3.	Fertilizers (kg)	N	100	250
		P ₂ O ₅	30	75
		K ₂ O	30	75

Note: Nitrogen at 150 kg and full of phosphorus and potash are applied as a basal dose while the remaining 100 kg nitrogen is given in two equal split doses as top dressing at 30 and 70 days after sowing.

CULTIVATION

Propagation

- It is usually propagated by sowing the seeds directly into the field. As the seeds lose viability rapidly, seeds from the previous season's crop only should be used for sowing.
- Before sowing, the land is thoroughly prepared and brought to a fine tilth. After the preparation of convenient sized plots (6 m x 4.5 m), soil is incorporated with recommended dose of manure and fertilizers.
- Ridges and furrows are opened at a spacing of 75 cm along the rows. The seeds are pre-soaked for 12 hours in water and treated with 0.2% captan or 0.1% calyxin for 30 minutes and then sown at the rate of 3-4 seeds per hill at a depth of 5 cm at 60 cm distance within the rows.

IRRIGATION AND INTERCULTURE

- The field is irrigated immediately after the sowing if there are no rains. Later, the irrigation is given at a regular interval of 4 days till the seedlings emerge and are well established. Later, a weekly irrigation during the dry period is enough.
- Two weedings during the early period of growth are enough to suppress the weeds.

PLANT PROTECTION

Major Insect Pests: Capsule borer, flea beetle

Major Diseases : Black foot or stem rot, root rot

SCHEDULE

- To control the insect pests, spray the crop with 0.2% quinolphos or nuvacron.
- Stem rot and root rot can be controlled by improving the soil drainage and controlling the frequent irrigation and also by treating the seeds with 0.2% captan or 0.1% calyxin before sowing and then drenching the plants with 0.1% carbendazim or 0.3% mancozeb chemical.

HARVESTING AND YIELD

- Roselle is a 150-180 days duration crop. The plants come to flowering after about 45-60 days of sowing and it is extended over a period of 4 months.
- The calyces grow rapidly and are ready for picking within 15-20 days after blooming. The whole fruits are plucked when they are tender, plump, fleshy, crisp and deep red in colour.
- The calyx lobes are separated and used fresh or they may be dried in shade for 12-15 days till a moisture level of 12 per cent is reached.
- The harvesting season lasts for about 2-3 months.
- For seed production, the calyces are picked while the capsule is still attached to the plant. After some time when a few of the lower and middle capsules turn dry and start splitting exhibiting well developed seeds, they are harvested separately.
- The plants may also be cut to ground level and brought to threshing yard and seeds are separated and cleaned by winnowing.
- An yield of about 13000 to 14000 kg of fresh calyces which in turn yield 1800 to 2000 kg dried calyces in addition to a seed yield of 2500 to 3000 kg per hectare may be obtained.
- The recovery percentage of dye is 1.97 and fatty oil is 16.2 from calyces and seeds, respectively.



Fresh Roselle Calyces



Dried Roselle Calyces