

# Propagation on medicinal plant SENNA



## We will discuss about.....

- Introduction of senna
- Varieties
- Soil & climate
- Field preparation
- Manures application
- sowing
- Intercultural operations
- harvesting
- yield

## INTRODUCTION :-

- Family: leguminasae
- Genus: cassia
- Species: angustifolia
- Origin : India , southern Arabia
- Yemen
- Usage: drug
- Usefull part: leaves , pods



## Indian names

- ✓ svarnapatri -- sanskrit
- ✓ sanay sana ka patt --- hindi
- ✓ nilavirai , nelavakai – tamil

## Other species

- Cassia acutifolia
- Cassia obavata
- Cassia italica
- Cassia abovata



Cassia acutifoila

Cassia italica



ARKIVE  
www.arkive.org

Cassia obovata



POD

# ORIGIN

It is a pantropic genus comprising of 500 species of which 20 species found to be india

## Distribution

- ❖ *It is mainly distributed in somalia , parts of sindh , southern arabia .*
- ❖ *In india it is distributed in gujarat , rajasthna and tamil nadu*
- ❖ *It is also seen in sudan , egypt*

## Description of the plant

- Senna is a **small perennial under shrub**; leaves are large, compound and pinnate and emits characteristic fetid smell when crushed. The flowers are bright yellow in colour and pods are slightly curved, 3.5 to 6.5cm long and 1.5cm broad.
- *C. angustifolia* and their pods contain about 2.4-4.5 and 1.25 to 2.5% **sennosides**, respectively.
- *C. italica* and *C. obavata* also possess a fair percentage of **Anthraquinone** compounds



CASSIA ANGUSTIFOLIA (SEENA PODS)





# VARIETIES

Gujarat agriculture university under -CIMAP ----- ALFT-2  
ANAND LATSELECTION

CIMAP -LUCKNOW -high yielding --- SONA

# Uses

- ❑ Medicine as a **CATHARTIC**
- ❑ Increases the peristaltic movement of colon
- ❑ Used in manufacturing of **TABLETS ,SYRUPS ,  
CALCIUM SENNOSIDES GRANULES**
  
- ❑ They are used in the form of powders ,decoctions , confections , household preparations

# Sen

## Cassia Angustifolia

sabor Menta

Ingredientes:  
Sen (94%), aroma de menta (6%).

Recomendaciones de uso:  
- No tomar durante el embarazo, menstruación o lactancia.  
- No tomar más de dos bolsitas filtro al día.  
- Tomar preferiblemente por la noche.



# SOIL

- Grown under variety of soils
- Mostly grown in RED LOAM , ALLUVIAL LOAM and rich clayey rice fields
- PH ranges from 7-8.5
- Very sensitive to water-logging , hence soil should be well drained
  
- These soils are deficient in phosphoric acid and nitrogen content

# CLIMATE

- It is a **sun loving crop** and it requires bright sun shine for better growth
- Trials in **BANGALORE** have shown that it can be grown better in early summer (feb-march) or in winter (oct-nov)
- An average rainfall of 25-40 cm distributed in june to october is sufficient for good harvestable yields
- Rainy season is not good

## LAND PREPARATION

- ✓ Land should be deep ploughed and exposed to sun light for 110-115 days
- ✓ To dry out the perennial weeds and this is followed by two cross-ploughing and levelling the land
- ✓ Final stage of ploughing FYM incorporated
- ✓ Land is prepared into convenient sized beds with irrigation channels

# PROPAGATION

- It propagated through seeds
- Seeds contain hard seed coat



- It needs certain amount of **ABRADING** and it is achieved by pounding with coarse sand in a mortar
- Soaking of seeds for 10-12 hrs not only gives 100% germination but also even plant growth

# SOWING

- Before sowing the land should be levelled
- it can be done in 3 methods—**BROADCASTING**  
**LINE SOWING**  
**RIDGES SYSTEM**

## LINE SOWING

- Seeds are sown at a space of 30-30 cm apart with depth of 1.5 to 2.5
- Germination starts on 3<sup>rd</sup> day and is completed within fortnight

## Seed treatment

- Treating with THIRAM , CAPTAN , AGROSON

## RIDGE SYSTEM

- Seeds are dibbled on inner sides at a distance of 45-30cm
- 45cm between the ridges and 30 cm b/w the plants
- In this system only 5kg of seed is required



## MANURES AND FERTILIZERS

- ✓ FYM – 5-10 T/HA
- ✓ N—50-100 KG
- ✓ P– 20-50 KG
- ✓ K– 30 KG

✓ For growing period of 130- 150 days depending on the growth and no of pickings

✓ P and k are applied at the time of sowing

✓ N is applied in 2 spilt does

✓ 50%---- time of sowing

✓ 50%---90 days after sowing

# CROP ROTATION AND INTERCROPPING

Studies at Delhi showed that crop rotation with

SENNA ----- MUSTARD

SENNA ----- CORIANDER

This gave higher profits and proved to be superior

# IRRIGATION

- ❖ Senna is mostly grown under rainfed condition
- ❖ So, it does not require any irrigation except in prolonged drought condition
- ❖ 5--- 8 light irrigations are enough to raise good crop
- ❖ Heavy irrigation is injurious to the crop

## WEEDING AND INTERCULTURE OPERATIONS

Once or twice before plant being to grow

- ❑ first weeding-cum-hoeing – 25-30 days
- ❑ Second weeding-cum-hoeing --- 75-80 days
- ❑ Third weeding –cum-hoeing --- 110 days

Use of **TEEFLAN** herbicide as a pre-emergent @ 4kg/ha has been reported not only increase in yields but also increase in **ANTHRAQUINONE** content

# HARVESTING

- Senna leaves and pods are harvested in three pickings
- It has been found that young senna leaves & pods contains high amount of **SENNOSIDES** . So, the leaves & pods should be harvested fresh
- First picking is done depending on total plant growth
  - mostly it is done at 50-70 days
- Second picking is done at 90-100 days
- Third picking is done between 130-150 days

# YIELD

Irrigated condition --- DRY LEAVES----- 15q/ha  
PODS ---7q/ha

Rainfed condition----- DRY LEAVES---- 10q/ha  
POD---- 4q/ha



# Grading

In the market, three or four grades of senna are recognised based upon size and colour

Grade A / first grade: The extra large and bold leaves and pods having yellowish green colour

Grade B /second grade: Produce having brownish leaves and pods

Grade C /lower grade: Smaller and broken leaves and pods





THANK YOU