

(vii) NIGER (*Guizotia abyssinica*)**CLIMATIC REQUIREMENT**

T_Max°C	T_Min°C	Optimum °C	Rainfall (mm)	Altitude m MSL
35	10 - 15	15 - 28	650 - 1000	1000 - 1250

Tropical and subtropical dry climate. It can grow in semi-shade or full sun. Flowering was very delayed at day lengths of more than 12 hours.

CROP IMPROVEMENT**I. SEASON AND VARIETIES****A. Rainfed**

- 1. Adippattam (June- July)** Dharmapuri, Krishnagiri, Hilly regions of Shevroy, Kolli hills, Jawad hills and Thalavadi hills
- 2. Purattasipattam (Sep-Oct)** Dharmapuri, Krishnagiri, Hilly regions of Shevroy, Kolli hills, Jawad hills and Thalavadi hills, Krishnagiri, Hilly regions of Shevroy, Kolli hills.

DESCRIPTION OF NIGER VARIETIES

Particulars	Paiyur 1
Parentage	Mass selection from Composite II
Duration (days)	80
Yield (kg/ha)	
Rainfed	260
Oil content (%)	44.6
Plant height (cm)	80-85
Branches	Profuse
Days to 50 % flowering	50
Seed size	Bold
Seed colour	Brown

CROP MANAGEMENT

I. PREPARATION OF THE FIELD

1. FIELD PREPARATION

- a) Plough with tractor 2-3 times with a mould board plough or 5 times with a country plough.
- b) Break the clods in between the ploughings and bringing the soil to a fine tilth.

2. APPLICATION OF FYM

a) Spread 12.5 t of FYM or compost or composted coir pith per ha evenly and incorporate in the soil. b) If the manure is not applied before commencement of ploughing, spread the manure evenly before the last ploughing and incorporate in the soil.

NOTE: Do not leave the organic manure exposed to sunlight as nutrients will be lost.

3. APPLICATION OF FERTILIZERS

Apply N at 20 kg/ha basally.

4. SEED RATE

Adopt a seed rate of 5 kg/ha.

5. SPACING

Adopt a spacing of 30 cm between rows and 10 cm between plants.

6. SELECTION OF GOOD QUALITY SEEDS

Select mature good quality seeds, free from pest damage and fungal attack.

7. PRE-TREATMENT OF SEEDS WITH FUNGICIDES

a) Treat with Carbendazim or Thiram at 4 g/kg of seed in a polythene bag and ensure a uniform coating of the fungicide over the seed. b) Treat the seeds 24 hours prior to sowing.

NOTE: Seed treatment will protect the young seedlings from root rot disease in the early stage.

8. SOWING

- a. Sow the seeds in line at a depth of 2 to 3 cm and cover with soil.
- b. Sow using gorru or country plough.

9. THINNING OUT SEEDLINGS

Thin out the seedlings to a spacing of 10 cm between plants on the 15th day of sowing.

10. WEED MANAGEMENT

Hoeing & weeding on 20th and 35th day of sowing.

11. HARVESTING

- i) Observe the crop considering the average duration of the crop.
- ii) The leaves and entire plant lose their colour and turn brown at maturity.
- iii) Cut the plants at the bottom.
- iv) Keep the plants in the threshing floor and beat the plants (heads) with sticks till the mature seeds are separated.
- v) Winnow the seed and dry in the sun.
- vi) Collect and store the seeds in gunnies.

CROP PROTECTION

Pre-Treatment of Seeds with fungicides

Treat with Carbendazim or Thiram at 4 g/kg of seed in a polythene bag and ensure a uniform coating of the fungicide over the seed. Treat the seeds 24 hours prior to sowing.

NOTE: Seed treatment will protect the young seedlings from root rot disease in the early stage.

VARIETAL SEED PRODUCTION

Land requirement

- Land should be free of volunteer plants. The previous crop should not be the same variety or other varieties of the same crop. It can be the same variety if it is certified as per the procedures of certification agency.

Isolation

- For certified / quality seed production leave a distance of 200 m all around the field from the same and other varieties of niger.

Spacing

- 30 x 30 cm

Fertilizer

- Apply NPK @ 40 : 40 : 20 kg ha⁻¹ as basal application.

Harvesting

- Harvest the crop as whole plants at 85 days after sowing, when the seeds attained physiological maturation.

Seed grading

- Grade the seeds using BSS 16 x 16 wire mesh sieve.

Seed treatment

- Slurry treat the seeds with Carbendazim @ 2g kg⁻¹ of seed (or)
- Slurry treat seeds with Halogen mixture (CaOCl₂ + CaCO₃ + *arappu* (*Albizzia amara*) leaf powder mixed in the ratio of 5:4:1) @ 3g kg⁻¹ of seed as eco – friendly treatment.

Storage

- Store the seeds in gunny or cloth bags for short term storage (8-9 months) with seed moisture content of 8 - 9%.
- Store the seeds in polylined gunny bag for medium term storage (12- 15 months) with seed moisture content of 7 – 8 %.
- Store the seeds in 700 gauge polythene bag for long term storage (more than 15 months) with seed moisture content of less than 5%.

Other management practices

- As in crop management techniques.