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Improved Package and Practices of Pigeonpea

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Pigeonpea is high yielding crop among pulse crops. It can be grown in varying climatic conditions. It is resilient to climate change due to its tolerance to drought. The initial domestication of pigeon pea was started in central India over 3,500 years ago, from its wild progenitor Cajanus cajanifolius (Vavilov, 1951; Saxena *et al*., 2014). Pigeon pea is a perennial shrub normally cultivated as an annual crop and, in India, can be used in rotation and intercrop systems with different cereal crops. Moreover, pigeon pea develops a deep root system, making it drought tolerant. These traits encourage cultivation in rain-fed drylands, although the poor growth conditions (e.g., aridity, nutrient-poor soils) mean that yields remain low. Effective symbiosis may improve nitrogen (N) content in this pulse legume and, hence, seed quality and quantity. However, legume-rhizobium symbioses are sensitive to drought, and, therefore, N fixation can be inefficient (Serraj *et al*., 1999; Mula and Saxena, 2010; Varshney *et al*., 2012).

Varieties

Manak- it is also known as H 77-216. It matures 8-10 days early as compared to UPAS 120. Plant height is medium. It also performs better in case of late sowing (upto first fortnight of July). Its average yield is 7.5q/acre.

UPAS 120- It is long duration variety which matures in 130-140 days. Duration of flowering is long. Branches are more which shed down after maturity. Pods are present in all the branches. Its average yield is 6q/acre.

Paras- it is also known as H 82-1. It has more no. of pods and flowering branches. Early growth is more in this variety so it also performs better in case of late sowing (mid-july). It matures in 135-140 days. Its average yield is 7-8q/acre.

Soil and field preparation

Well drained loamy soil is suitable for it cultivation. Field should be free from weeds.

Sowing time

In irrigated conditions where two crops are grown in a year, sowing of UPAS 120 can be done from march to first week of july and for Manak and Paras mid june to mid july.

In rainfed areas sowing should be done at onset of monsoon.

Seed treatment with rhizobium culture

50 ml of rhizobium culture is used for one acre. In a bucket take 200 ml of water and mix 50 gm jaggery in it. Spread this solution on one acre seeds and sprinkle rhizobium culture over this. Mix seeds well with hands and shade dry before sowing.

Seed rate and method of sowing

Line sowing is recommended for pigeonpea. Line to line distance should be maintained at 40sm. Per acre seed rate is 5-6 kg. in case of mixed cropping line distance should be 50 cm.

Fertilizers

8 kg nitrogen (17.5 kg urea), 16 kg phosphorus (100 kg single super phosphate) is recommended at the time of sowing.

Weeding and hoeing

Two weedings and hoeings at 25 and 45 days after sowing are done to keep the field free from weeds.

Irrigation

If possible then atleast one irrigation should be done at fruit formation. In case of summer pigeonpea in mixed cropping then irrigation should be done according to mixed cropping.

Management of insect pests

Pod borer- at 50% pod formation spray 600 ml quinalphos 25EC or 300 ml Monocrotophos (Nuvacron/Monocil) 36 SL or 75 ml cypermethrin 25 EC or 120 ml fenvalrate 20 EC in 300 litres of water per acre. For ease in spraying after 7 mitre row of pigeonpea leave 3 mitre empty space for spraying. In this space moong or urd can be grown. If necessary repeat spray after 15 days.

Intercropping cultivation

If sowing is done in month of march then line to line distance should be 75 cm and after two rows of pigeonpea sowing of two rows of moong is done. Accordingly sowing of Lobia (HFC 42-1) should be done. These intercrops can be harvested in 65-75 days.

Benefits

- Two crops can be taken at cost of one crop.
- In summer sowing of pigeonpea well crop stand is established before monsoon due to which crop can tolerate rainfall and drought.
- Weed infestation is less in summer sowing.
- Summer crop matures before sowing of wheat crop
- Net income and yield is more in intercropping as compared to sole kharif crop of pigeonpea.

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