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Package of Practice for Cultivation of Guar

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Botanical name – *Cyamopsis tertragonoloba* L.
Family – Legumenaceae

Cluster bear is an annual legume crop and one of the famous vegetable popularly known as "Guar" in India. Cluster bean is cultivated for its green vegetable and dry pods, & as a forage crop and also cultivated for green manure because guar planting increase subsequent crop yields, as this legume crop conserve soil nutrients. It is grown in all parts of India. The very famous guar gum used in mining, petroleum drilling & textile manufacturing is obtained from endosperm of guar seeds.

ORIGIN: West Africa as well as India is treated as center of origin for cluster bean as many wild species found occurring in tropical parts of Africa and in all over India it is being grown from ancient times.

AREA & DISTRIBUTION: In India area of cluster bean has increased rapidly in recent years due to establishment of gum industries. It is being grown in Rajasthan, Gujarat, Haryana and Punjab. Rajasthan alone accounts for almost 53% of total guar seed production.

CLIMATE: Cluster bean is a draught resistant crop and can be grown successfully in areas where average annual rainfall is 30-40 cm.it is cultivated mostly as rainfed crop in northen India. Proper germination of seeds and root development takes place between 25-30 $^{\circ}$C temperatures. It can not stand water logging conditions.

SOIL: Cluster bean can be sown on all types of soil except heavy and poorly drained soil. It thrives best on well drained medium to light sandy loam soil with pH range of 7 to 8.5.

SEED RATE & SOWING: Sowings are usually done in march for the summer crop in north India and in june-july for rainfed cop, it has been observed that sowing of guar from first week of july till july 25 is the best time for obtaining higher yields of grain, crude protein and crude gum yield. Early planting result in more vegetative growth, leading to lodging and ultimately low seed yield. Seed rate for grain crop is 15-20 kg/ha and for fodder purpose it is 40-45 kg/ha.

FIELD PREPRATION: Cluster bean does not require much field prepration, 2 to 3 ploughing with local plough or two cross harrowing is sufficient.

MANURE AND FERTILIZERS: Add about 10-12 tonnes of FYM at the time of soil prepration. Should apply inorganic fertilizers 25 kg/ha of N, 50 kg/ha of P and 25 kg/ha of K as basal dose. 25kg of N is applied as top dressing after one month of sowing.

WEEDING: One or two weedings are essential in khrif season crop to control the weeds in initial stage of plant growth. For seed crop Basalin can be used at 1 kg/ha, it should be used as pre planting dose and incorporated well in upper 10 cm of soil prior to sowing.

IRRIGATIONS: Irrigation is required immediately after sowing and subsequent irrigations should be carried out at 7 to 10 days intervals. Watering the fields may also depends upon

soil type and season. If it is rainy season irrigation may not be needed. Drip irrigation system is adapted for effective use of water.

MAJOR DISEASES: Leaf spot and powdery mildew are the major diseases which affects cultivation of cluster bean to control the spread of leaf spot, mancozeb @ 2 g/lt of water is sprayed and to control powdery mildew dust of sulphur 25 kg/ha or wettable sulphur 2 g/lt of water. Application should be repeated at interval of 2 weeks.

MAJOR PEST

- Leaf hopper- To control the infestation of leaf hopper spray of dimethoate 30 EC 1 ml/liter of water or methyl demeton 25 EC 1 ml/liter of water is done.
- Ashweevil- Ashweevil is control by the spray of phosalone 35 EC @ 1.5 to 2 ml/liter of water.
- Pod borror- To control the spread of pod borror, spray quinalphos 25 EC at 2 ml/liter of water or carbaryl 50 WP @ 2g/liter of water.

HARVESTING: When the crop is grown for fodder, the plants are cut when in flower or when the pods are beginning to form (50 to 85 days after sowing). When grown for seeds, the crop is left until the plants are mature. Crop is harvested with the help of sickle and then dried and threshed.

YIELD: A good crop of guar yield about 250-300 quintals of green fodder or 10-15 quintals of grain or about 50- 60 quintal of green pods per hectare.