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Improved Package and Practices of Cluster Bean

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INTRODUCTION

Cluster bean is an important *Kharif* crop for dry regions of Haryana. It is mainly cultivated in Hisar, Bhiwani, Charkhi Dadri, Mahendergarh, Rewari, Gurgaon and Sirsa districts for seed production. Cluster bean is commonly known as *Guar* in Haryana and its seed contains 31% protein. In recent years, its industrial importance has increased due to the presence of 30-35% gum in it. This gum can be used for making clothes, food products, cosmetics and oil industries. Selection of improved variety and good crop management can be helpful in increasing the production of Cluster beans.

Improved Varieties- HG 75: plants are shrub-like and short in height. Seeds are creamish white in colour. It is the most gum-producing variety. It attains maturity in 110-115 days. Seed yield- 7-8 q/ac.
HG 365: it is an early maturing variety and attains maturity in 85-100 days. The seed contains 30% gum. Seeds are small and greyish in colour. Seed yield- 6.5-7.5 q/ac.
HG 563: it is an early maturing variety and attains maturity in 85-100 days. Leaves are dark green and have flat borders. Seeds are shiny and bold as compared to HG 365. It is resistant to all diseases. Seed yield- 7-8 q/ac.
HG 870: it attains maturity in 100-105 days. The gum produced by seeds is thick. Seed yield- 7-8 q/ac.
HG 2-20: this is an early maturing variety cultivated all over India. It attains maturity in 90-100 days. The number of seeds in the pod is more in comparison to other varieties. Seed yield- 8-9 q/ac.

Soil and its Preparation- It can be grown in light to medium well-drained soil. Soil should be well cultivated to get good yield. One ploughing by soil turning plough followed by two country ploughings should be done.

Time of Sowing- For seed production, late-maturing varieties can be sown in mid-July. Early sown crop shows more crop growth and low yield. Early sown varieties i.e. HG 365 and HG 563 can be sown in the second fortnight of June while HG 870 and HG 2-20 in first fortnight for higher yields.

Seed treatment- Like pulse crops, Cluster bean seed is treated with Rhizobium and PSB culture. After culture, mix 6 gm of Streptocycline in 6 litres of water and add 6 kg of guar seed for 25-30 minutes. Then seeds should be dried in shade for 30-40 minutes.

Seed rate and sowing-

For early maturing varieties (HG 365, HG 563, HG 870, HG 2-20): 5-6 kg

For mid maturing varieties (HG 78): 7-8 kg

In irrigated conditions, sowing should be done by the *kera* and *pora* method while in rainfed conditions by the *pora* method keeping 45 cm of row spacing. But HG 365 and HG 563 are sown with 30 cm row spacing. Plant-to-plant spacing should be 15 cm.

Fertilizer- 16 kg Phosphorus (100 kg single super phosphate) and 8 kg Nitrogen (18 kg Urea) per acre should be used at the time of sowing. In case of sulphur deficiency in soil, 8 kg sulphur or 60 kg gypsum per acre can be incorporated at the time of sowing.

Weeding and Hoeing- One hoeing after 25-30 days of sowing and if needed, second hoeing should be done with a hand-wheel hoe. For weed management, application of Basalin @ 800 ml in 250 litres of water should be applied before sowing.

Irrigation- There is no need for irrigation if the crop is sown in July. but if there is no rainfall, one irrigation at the time of pod formation should be given.

Harvesting- Crop should be harvested at the time when leaves turn yellow and pods brown in colour. The crop should be harvested right after maturity so that pods will not fall down.

Insect-pests Management- Thrips- Malathion 50 EC @ 200 ml in 200 ltr water per acre.

If the crop is sown for fodder purposes then up to 7 days of spraying, the crop is not fed to animals.

Disease Management- Bacterial Blight: there are brown to black watery spots on leaves that can be seen. In humid conditions, these spots unite together to form a large spot. Later on, these spots can be seen on stems and pods also. Infected plants show wilting symptoms.

Spray Schedule- After 55-60 of sowing or with initiation of disease, spray two times Streptocycline @30 gm per acre or copper oxychloride @200 gm per acre in 200 litres of water with intervals of 15-20 days.