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Original article**Production Technology of Yard long bean****¹P A Sable , ²K Z Vaghela , ³Dr. Preeti H Dave , ⁴A D Rathwa and ⁵Piyush Verma**^{1,2} & ⁴Assistant Professor, ⁵Professor and Dean, and ³Associate Professor^{1,2,4,5} College of Horticulture, S. D. Agricultural University, Jagudan, Dist. Mehsana and³ASPEE College of Nutrition and Community Science, S. D. Agricultural University, S.K.Nagar.*Corresponding author: sable.pating@sdau.edu.in

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ABSTRACT

Yard long bean known as asparagus bean, vegetable cowpea, snake bean, string bean a member of the Fabaceae family. It is climbing or trailing vine. It is a sub-species of the cowpea and grown primarily for its strikingly long immature pods. Pods are green bean, 30-90 cm long, fleshy and tending to shrink when dry. It is one of the most nutritious leguminous vegetable crop. It is a rich and inexpensive source of vegetable protein.

Keywords: Yard long bean, Arka Mangala, INM, Yield.**1. INTRODUCTION**

Yard long bean (*Vigna unguiculata* (L.) Walp. subsp. *sesquipedalis* (L.) Verdc. is one of the economically important leguminous vegetable crop. It is generally known as vegetable cowpea. It is also called as Chinese long bean, string bean, snake bean, snap pea. It is a diploid with chromosome number $2n = 2x = 22$. It is a vigorous climbing annual vine. It is a sub-species of the cowpea and grown primarily for its strikingly long immature pods and has uses very similar to that of the green bean (Sarada and Rao, 2020). It is one of the most nutritious leguminous vegetable crop. It is a rich and inexpensive source of vegetable protein. Fresh pods are used as a green vegetable. The pods are rich in calcium, phosphorus, sodium and potassium and also fair amounts of vitamin A, thiamine and ascorbic acid are present. It enriches soil fertility by fixing atmospheric nitrogen. Because of its quick growth habit it has become an essential component of sustainable agriculture (Manjesh *et al.*, 2022).

2. VARIETIES**Arka Mangala**

It is released from ICAR- Indian Institute of Horticulture Research (ICAR IIHR), Bangalore. Its plants are 3- 4 m tall. Pods are 70-75 cm long, light green, stringless, round, tender with a crisp texture. It matures in 60 days. Pod yield 25 t/ ha in 100 days.



Pods of Arka Mangala

VL-Lobia-1 (VPKAS, Almora)

PVCP-20 (Panthnagar)

Cultivation

Climate and soil

It is a warm season crop and comes up well between 20- 30 °C. It prefers full sunshine during growth and development, whereas cloudy and rainy weather cause low yield due to poor fruit set and dropping of young pods. Well-drained humus rich sandy loam soils with pH 6.2-7.0 are well suited. Season is *kharif* (June-July) but it can be cultivated through out the year where the winter is mild.

Sowing

Land is prepared to a fine tilth by ploughing and harrowing. Trailing varieties (Yard long bean) are grown on trellis by sowing seeds in channels at 1.5 m x 0.30 -0.45 m spacing. Seed rate is 5.0- 6.0 kg/ ha.



Training in yard long bean

Nutrient management

Yard long bean responds well to manure and fertilizers. It is a leguminous crop which fix atmospheric nitrogen, hence nitrogen requirement is less than other vegetables. The optimum fertilizer dose is 25:60:50 kg NPK/ ha along with 25 t/ ha FYM . Use of biofertilizers can have a greater importance in increasing fertilizer use efficiency. Organic manure is to be applied as basal during land preparation. Full dose of P, K and half dose of N are to be applied at the time of sowing and rest half dose of N at 30 and 60 DAS. Sindhuja *et al.* (2021) investigated that maximum yield was recorded with application of 75% RDN through inorganic + 25% RDN through vermicompost (*Rhizobium* and PSB enriched) as compared to RDF (50:75:60 kg NPK/ ha) in yardlong bean. Micronutrients (0.2%) formulation (Zn, Fe, Mn, Cu and B) with spreader surfactant/ one shampoo sachet with one lemon can be sprayed twice for getting the higher yield (Vinay *et al.*, 2024).

Aftercare

Depend upon soil condition and climate irrigation to be given. Crop is to be irrigated twice in a week. Drip irrigation has been also found beneficial for improving the yield. Hand weeding depend upon weed intensity.



Flowering and fruiting in yard long bean



View of Arka Mangala variety of yard long bean field



Canopy of Arka Mangala

Harvesting and yield

Fully-grown tender pods of yard long bean are harvested for marketing. Pods are usually harvested in alternate days and harvesting period extends up to 45 days under good management practices. It yields 15- 18 t ha. Arka Mangala variety yields 25 t/ ha in 100 days.

Plant protection

Stem fly management

Neem seed powder extract (4%) or neem formulation with 10000 ppm azadirachtin (2 ml/ L). Acephate 75 WP @ 0.75 g/ L.

Pod borer management

Spray Neem seed powder extract 4%.

Chloripyriphos 20 EC @ 2.5 ml/ L as soon as eggs are noticed on flower buds. The spray has to be given at the flower bud stage.

Powdery mildew management

Foliar application of Carbendazim (0.1%) (Chattopadhyay *et al.*, 2020 in cowpea) or Hexaconazole (0.05%).

Rust management

Spray Chlorothalonil (0.2%) or Propiconazole (0.025%).

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