

भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
(कृषि, सहकारिता एवं किसान कल्याण विभाग)
दलहन विकास निदेशालय
छठवीं मंजिल, विन्ध्याचल भवन
भोपाल-462004 (म.प्र.)

**Government of India**

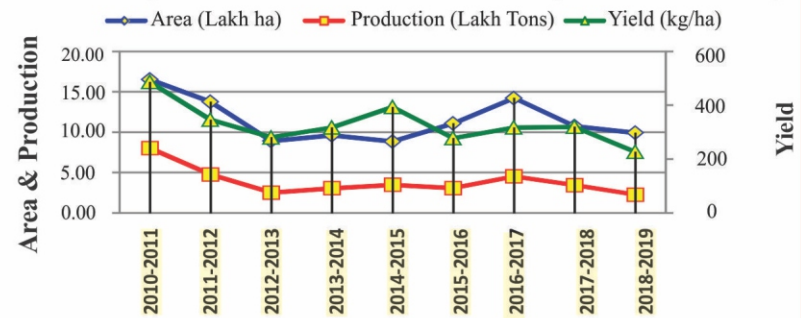
Ministry of Agriculture & Farmers Welfare,
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Directorate of Pulses Development
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Bhopal - 462004 (M.P.)

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**MOTHBEAN**

Scientific Name:
Vigna acontifolia

Area : 10.95 Lakh ha
Production: 3.34 Lakh tonnes
Yield: 305 kg/ha
(Avg. of 2014-15 to 2018-19)
**Ever Highest Production –
8 Lt. (2010-11)**

Area, Production & Yield of Mothbean (2010-11 to 2018-19)**Major States (Avg.: 2014-15 to 2018-19)**

(Area in lakh ha; Production in lakh tonnes; Yield in kg/ha)

Major States	Area	% Contri	Prod.	% Contri	Yield
Rajasthan	10.73	98	3.24	97	302
Gujrat	0.20	2	0.10	3	479
All Above	10.93	(100%)	3.34	(100%)	305
All India	10.95		3.34		305

Major Districts

Major States	Year	Major Districts
Rajasthan (100%)	2018-19	Bikaner, Churu, Nagaur, Jodhpur, Barmer, Hanumangarh, Jaisalmer
Gujrat (99%)	2017-18	Kutch, Ahmedabad, Banaskantha, Patan, Surendra Nagar, Surat, Mehsana, Bharuch, Bhavnagar, Rajkot, Vadodara, Kheda

Economic Importance:

This crop is rated as most economic and useful annual grain legume. This is probably due to genetic buffering embedded in this arid legume to quickly adjust and adapt to the fast fluctuating situations starved due to soil moisture depletion and nutritional deficiency.

Crop Products:

- Consumed as whole grains, sprouted form as well as dal in a variety of ways.
- Green pods are delicious source of vegetables
- Savoury products- Papad, Bhujia, Namkeen, Sprouts.
- Used as a source of food, feed, fodder, green manuring and green pasture.

New Varieties:

Year	Varieties
2002	Maru Bahar (RMO-435),
2003	CAZRI Moth 2
2004	RMO-423, RMB-25(RMO-2004), GMO-2
2005	CAZRI Moth 3,
2007	RMO-257, TMV (Mb)1
2016	RMO-2251 (I)

State-wise Recommended Varieties:

State	Varieties
Gujarat	GMO 1, GMO 2
Rajasthan Var.(Release Year)	RMO-257, RMO 435, RMO 2004 (RMB 25), RMO 225 (1995), RMO 40 (1994), FMM -96 (1997) , Moth 880 (1989), Jwala (1985)
Maharashtra	Early Varieties of Rajasthan
Haryana	Early Varieties of Rajasthan

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सत्यमेव जयते

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Sowing Season: Kharif

Sowing Time : 2nd to 3rd week of July

(Delay in sowing may result in poor growth, poor germination, increased seedling mortality and incidence of pest and diseases and more conspicuously moisture stress at the flowering, the most critical stage.)

Spacing : 30-45 cm x 10-20 cm. **Seed Depth :** 2.5 – 4 cm.

Seed Rate : Grain-10-15 kg/ha; **Mixed crop-** 4-5 kg/ha;

Fodder- 20-25 kg/ha

Seed Treatment: Carbenfiazin @2 gm/kg of seed.

After fungicide treatment seed inoculation.

Culture & Micronutrient : Rhizobium and PSB culture (5 -7 gm/kg seed)

Soil Type: It is successfully grown sandy loam to black cotton soils having good drainage capacity.

Climate: It can tolerate high temperature without any adverse effect on flowering and fruit development. Optimum temperature requirement for growth and development is 25-37°C. Bulk of the cultivation is, confined to dry-lands of arid zone with 250-500 mm rainfall requirement with arrangement of proper drainage.

Plant Nutrient Management: 10-15 kg N, 30-40 kg P₂O₅/ha as a basal at sowing time.

Weed Management: One hand weeding at 30 DAS + pre plant incorporation of fluchloralin (Basalin) @ 0.5 to 1 kg a.i./ha effectively controlled the weeds in mothbean.

Application of fertilizer should be based on Soil Test Report.

Irrigation : It is cultivated in dry land and rainfed condition but in long dry spell one irrigation should be given at pod formation stage.

Cropping System:

- Generally grown as single (mono) crop in a year mixed or as a sole crop. However, in a year of good rainfall, it can be rotated with mustard.
- Mixed cropping with pearl millet, cluster bean, cowpea, mung & sesame in risk prone areas during monsoon. Varieties recommended are RMO 40 & FMM 96 of mothbean and HHB 67 of Bajra.
- Inter cropping (2:1) - 2/3 rows of mothbean in between two rows of pearl millet.

Harvesting/Threshing & Storage

Pods get mature and turn brown or yellowing of leaves. Estimated Post harvest losses are 9-10% during threshing transportation, processing and storage. Sun drying, heat treatment, and storage at low temperature with low moisture percentage in seeds (8-9%), is recommended.

Soil/Foliage Pest & Management :

Termite: Soil application- Phorate or aldicarb @ 1.25 a.i./ha before sowing.

Pulse beetle *calosobruchus chinensis*: i) Carry Seed moisture level below 10% before storing; ii) Fumigation; iii) Mixing/Smearing with neem leaves/cake & edible oils.

Yield: **Fodder** -12-25 qtls/ha; **Grain** - 3-8 qtls/ha.

Insect-Pest & Disease Management:

Pest	Active Period	Incidence	Control Measures
Sucking Pest			
Jassids, White fly, Thrips	II week of Aug.- harvest	Regular	i) Early sowing; ii) Inter-cropping with Pearl Millet (1:4); iii) Application of Phorate or aldicarb @ 1.25 kg a.i. effective upto 4 week.
Aphid & mite, White grub	II week of Aug. to I week of Sept.	Sporadic minor pest	

Name of Disease	Disease Symptoms	Control Measures
Anthrachnose (Collectotrichum spp.)	Circular, black sunken spots with dark centres and bright red or orange margins on leaves and pods. In severe infection affected parts wither off.	i. Seed treatment with Carbenfiazin 2 gm/kg of seed. ii. Spraying the crop with Dithane M- 45 @ 2.5 gm/litre of water.

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