

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,
Deptt. of Agriculture, Cooperation & Farmers Welfare
Directorate of Pulses Development
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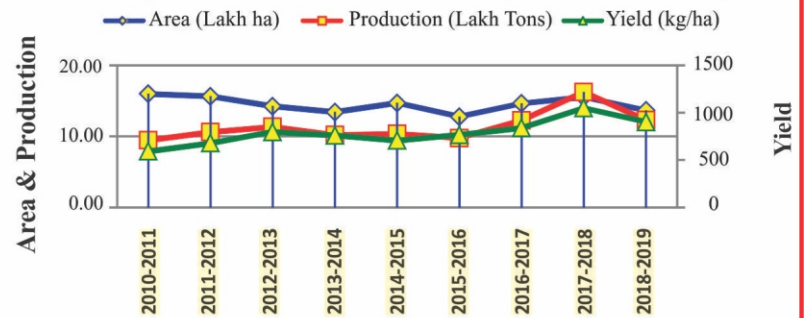


LENTIL

Scientific Name:
Lens culinaris

Area : 14.24 Lakh ha
Production: 12.17 Lakh tonnes
Yield: 855 kg/ha
(Avg. of 2014-15 to 2018-19)
**Ever Highest Production –
> 16 Lt. (2017-18)**

Area, Production & Yield of Lentil (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
Madhya Pradesh	5.41	38	4.53	37	837
Uttar Pradesh	4.44	31	3.66	30	824
Bihar	1.56	11	1.55	13	997
West Bengal	1.15	8	1.07	9	934
Rajasthan	0.49	3	0.47	4	966
All Above	13.05	(92%)	11.29	(93%)	865
All India	14.24		12.17		855

Major Districts (2018-19) Except West Bengal- (2016-17)

Major States	Major Districts
Madhya Pradesh (78%)	Sagar, Rajgarh, Vidisha, Dindori, Rewa, Narsinghpur, Raisen, Shajapur, Mandla, Satna, Panna, Damoh, Anuppur, Seoni
Uttar Pradesh (65%)	Bahraich, Banda, Jhansi, Mahoba, Chitrakut, Balrampur, Jalaun, Hamirpur, Shahjahanpur, Sitapur, Ballia, Shravasti, Kheri
Bihar (76%)	Patna, Nalanda, Aurangabad, W.Champaran, Madhubani, Gaya, Jahanabad, E.Champaran, Bhabhua, Bhojpur, Arwal, Lakhisara
West Bengal (91%)	Nadia, Murshidasbad, Birbhum, North 24 Parganas, Malda
Rajasthan (99%)	Pratapgarh, Jhalawar, Bhilwara, Bundi, Tonk, Chittor, Nagaur

Major Countries (Avg.: 2014 to 2018)

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

Country	Area	% Contri	Prod.	% Contri	Yield
Canada	17.98	34	27.03	46	1503
India	15.92	30	11.50	20	722
Turkey	2.53	5	3.65	6	1441
USA	2.74	5	3.33	6	1218
Nepal	2.04	4	2.31	4	1131
All Above	41.21	(79%)	47.82	(81%)	1160
World	52.23		58.84		1127

Economic Importance:

India ranked second in the area and production with 30% and 20% of world area and production respectively. Lentils are considered to remedy constipation and different intestinal afflictions. Seeds are also rich in protein, fibre, iron, calcium etc.

Crop Products:

- Mainly consumed in whole/dehulled/split form as 'dal'.
- Dry leaves, husks, stems, broken pods are used as valuable cattle feed.
- Flour is used to make snacks, soups, stews, purees, and mixed with cereals to make bread and cakes; and as a food for infants.

New Varieties:

Year	Varieties	Year	Varieties
2011	VL Masoor 133, VL Masoor-514	2016	RLG-5
2012	LL- 931	2017	L 4717, RVL 11-6, PL-9
2013	IPL- 316	2018	RKL 607-1, RKL 14-20, L 4727
2014	Raj Vijay Lentil -31, Azad Masur-1	2019	IPL 321, IPL 315, RVL 13-5, RVL 13-7
2015	KLB 2008-4 (Krati), KLS 09-3 (Krish)	2020	IPL 534, Kota Masoor 3 (RKL 605-03), L 4729, VL Masoor 148

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सत्यमेव जयते

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Sowing Season: Rabi

Sowing Time : Rainfed -1st fortnight of Oct. in CZ and SZ and 2nd fortnight of Oct. in NZ

Late sowing - 1st week of Dec. in rice fallows of NEPZ.

Sowing Method : Flat Bed/Line sowing, Relay cropping with paddy

Spacing : Sowing should be done in rows 30 cm.

Seed Depth : 3-4 cm

Seed rate : Small – 35-40 kg/ha; **Bold** - 45-50 kg/ha;

Late – 45-50 kg/ha; **Utera cropping** - 60-70 kg/ha

Seed Treatment:

Fungicide: Hexaconazole @ 2 ml/kg seed.

Culture & Micronutrient: Rhizobium+PSB 1 packet each for 10

Irrigation : 1st - Branching (40-45 DAS); 2nd - Pod filling (80-85 DAS)

Cropping System:

Rotation – Paddy–lentil; Maize–lentil; Bajra–lentil; Cotton –lentil; Groundnut–Lentil; KharifFallow –Lentil (Rainfed areas)

Intercropping – Mustard , Linseed, Sugarcane (Autumn) with two rows of lentil at 30 cm row spacing in between two rows of sugarcane

Weed Management:

Major Weeds	Management
Bathua, Gajri, Chatri, Matri, Senji, Ankari, Kateli, Jungli Piaji	Hand weeding /inter-culture : 1 st 25- 30 & 2 nd at 45-50 DAS; Pendimethalin 30 E.C@ 3-4 lit/ ha (Pre-em), Quazalophos@0.70 lit/ha(Post-em)

Seed Replacement rate :

Crop	2011	2012	2013	2014	2015	2016
Lentil	20.23	21.46	34.12	31.49	26.65	35.40

Harvesting :

Leaves begin to fall, stem and pod turn brown or straw in colour and seeds are hard and rattle with 15% moisture inside them.

Economics of Crop cultivation:

Parameters	Rabi
Yield (Normal 2014-15 to 2018-19)	8.55 qtls/ha
Gross income (at MSP 2019-20)	Rs. 41040/ha
Cost of Cultivation (CoC A ₂ +FL)*	Rs. 21042/ha
Cost of Production	Rs. 2461/qtls

*CoC -Cost of Cultivation ; A₂-Actual paid out cost; FL- Imputed value of Family labour.

Soil type: Well drained, loam soils with neutral reaction are best for lentil cultivation.

Climate: Lentil requires cold temperature during vegetative growth and warm at the time of maturity. Growth is optimum at 18-30°C. Very hardy and can tolerate frost and severe winter to a great extent.

Plant Nutrient Management: 20 kg N, 40 kg P₂O₅, 20 kg K₂O /ha in medium to low fertile soils as basal dressing.

Sulphur- In medium black soils and sandy loam soils - 20 kg S ha⁻¹ as basal. In red sandy loam soils - 40 kg S ha⁻¹. (This quantity is sufficient for one crop cycle).

Boron- In chickpea/ lentil grown in calcareous alluvial soils, apply 1.6 kg of B ha⁻¹ (16 kg borax/ 11 kg di-sodium tetra borate penta-hydrate) as basal to each crop.

Application of fertilized should be based on Soil Test Report.

Insect-Pest & Disease Management:

Major Diseases	Management
Seedling Mortality	i) Delay planting until mid-November; Seed treat - Benomyl, a systemic fungicide@ 2.5 gm./kg. of seed. ii) Grow Resistant var.- Pant L-406.
Wilt	i) 3 yr. crop rotation; Seed treat with Benomyl @ 3 g/kg of seed; ii) Res. Var.- L-4076, Pant L4, Sapna, Pant L-406.
Stemphylium Blight	i) Affected plant trash should be burnt; ii) Spray the crop with Mancozeb 75 WP@ 0.2%. 2 spray at 15 days interval.

Major Insect Pest	Management
Pod borer	i) Spray Neem extract (5%); ii) Spray of Prefenophos 50 EC @ 2 ml/lit. or Emmammectin benzoate 5 SG @ 0.2 g/lit. of water.
Aphids	i) Follow crop rotation; ii) Spray Dimethoate 30 EC @ 1.7ml/lit of water.

Threshing and Storage:

Dry for 4-7 days on threshing floor and threshed by manually or bullock/power drawn thresher after that sun dried for 3-4 days to bring their moisture content at 9-10%. Safely stored in bins & fumigated to protect them bruchids.

Minimum Support Price:

Crop	(Rs. per qtls)					
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Lentil	3075	3325*	3950^	4250@	4475	4800

*Included bonus of Rs. 75 per qtl ; ^Included bonus of Rs.150 per qtls; @Included bonus of Rs.100 per qtls.

Compiled and Edited by

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