

Lentil (*Lens culinaris*)

Varieties:

Varieties	Plant type	Maturity (days)	Yield (q/ha)	Other characters
PL 406	Branched semi spreading, 35-40 cm tall	120-125	10-12	Seeds medium sized, 1000 seeds wt. 17-19g

Newly recommended Lentil varieties

Varieties	Year of release	Duration (days)	Yield (q/ha)	Disease reaction	Protein content (%)	Zone for which recommended	Adaptation
HUL 57 (Small Seeded Lentil Variety)	2005	112-115	12-14	Resistant to rust & tolerant to wilt	24.50	CBVZ, LBVZ & UBVZ	Rabi season
Axom Masur 1 (SL 2-24)	-	115-120	12-14	Moderately resistant to wilt	27.60	All zones except BVZ	Rabi season
Axom Masur 2 (SL 2-28)	-	115-120	12-14	Moderately resistant to wilt	26.90	All zones except BVZ	Rabi season

Soil type: Loam or silty loam is preferable.

Time of Sowing: Mid October to mid November.

Field Preparation: The field is to be ploughed 3-4 times to obtain a good tilth.

Nutrient	Requirement (kg/ha)	Form	Fertilizer requirement	
			kg/ha	kg/bigha
A. Without Rhizobium culture				
N	15	Urea	32	4.5
P ₂ O ₅	35	SSP	220	30
K ₂ O	15	MOP	25	3.3
B. With Rhizobium Culture :				
N	10	Urea	22	3
P ₂ O ₅	35	SSP	220	30
K ₂ O	15	MOP	25	3.3

Fertility Management:

In the both cases vermicompost @ 1 t/ha or FYM @ 2 t/ha as basal.

Diammonium phosphate (DAP) @ 75 kg/ha or 10 kg/bigha is to be applied in lieu of urea and SSP in non-inoculated crop. NPK may also be supplied in the form of mixed fertilizer.

Foliar spray of 2% urea at branching (35 DAS) and pod formation (75 DAS) stages in addition to the recommended dose of P & K. In addition to fertilizer dose of 10-26-15 N-P₂O₅-K₂O kg/ha, Ammonium molybdate 0.5 kg/ha (67 g/bigha) and 20 kg ZnSO₄/ha (2.7 kg/bigha) should be applied to soil.

Seed should be inoculated with Rhizobium and PSB each @ 50g/kg of seed.

Application of Lime:

CaCO₃ in the form of dolomitic lime @ 65.5 kg/bigha should be applied 15 days before seeding and incorporate in the soil in areas where multiple cropping is practiced.

Seed priming: Soak the seeds for 6 hrs and dry under shade to bring it back to almost the original weight.

Seed Inoculation with Rhizobium Culture:

Seeds are to be moistened with clean water avoiding excess wetting and *Rhizobium* culture @ 50 g/kg kg of seeds and PSB @ 50 g/ kg seed are to be inoculated.

Seed Rate: The optimum seed rate is 30 kg/ha or 4 kg/bigha.

Conservation agriculture practice

In zero-tilled lentil after rice, broadcast seeds @ 45 kg/ha or 6 kg/bigha immediately after harvest in moist loamy soil keeping 30 cm high rice stubbles. Sowing should be completed within November. Seed should be inoculated with Rhizobium (50g/kg seed) + Sodium molybdate (1 g/kg). Apply 75% N (11.25 kg/ha or 1.5 kg/bigha) along with 100% P₂O₅ (35 kg/ha or 4.7 kg/bigha) and 100% K₂O (15 kg/ha or 2 kg/bigha) at the time of sowing.

Under rice utera condition, 45 kg/ha or 6 kg/bigha seed rate should be used. Lentil variety HUL 57 and KLS 218 may be used for rice utera condition.

Under rice utera condition, 5-13-0 N-P₂O₅-K₂O kg/ha (incubating with 10 parts soil for two days) should be applied at the time of sowing. After the harvest of rice, 5-13- 15 N-P₂O₅-K₂O kg/ha (incubating with 10 parts soil for two days) should be top dressed. Seed should be inoculated with *Rhizobium* and PSB each @ 50 g/kg seed. At branching and pod initiation, 2% urea should be sprayed.

Nutrients	Requirement (kg/ha)		Source	Fertilizer requirement			
				At sowing		After Harvest	
	At sowing	After rice Harvest		kg/ha	kg/bigha	kg/ha	kg/bigha
N	5	5	Urea	11	1.5	11	1.5

P ₂ O ₅	13	13	SSP	81	11	81	11
K ₂ O	0	15	MOP	0	0	25	3.3

Spacing:

The seeds are to be sown in line at a spacing of 25 cm between rows and 5-7 cm from seed to seed.

Interculture:

Two weedings at 20 and 30 DAS or apply oxfluorofen @ 150 g./ha as pre-emergence followed by 1 hand weeding at 20 DAS.

Irrigation:

If necessary and available, one light irrigation is to be given during pod filling stage.

Plant Protection:

Disease	Fungicide/other measures	Dose/ concentration	Mode of application
Rust	Tebuconazole 25 EC	0.1% (600-700 ml mixed with 600-700 lit water/ha) (80-90 ml/80-90 lit water/bigha) 0.2% (1200-1400	Three foliar sprays just after the application of appearance of disease at 10 days interval.
	Or Propiconazole	0.2% (1200-1400 ml mixed with 600-700 lit water/ha) (160-185 ml/80-90 lit water /bigha)	
	Or Hexaconazole	0.2% (1200-1400 ml mixed with 600-700 lit water/ha) (160-185 ml/80-90 lit water /bigha)	
Wilt	Carboxin	2 g/kg of seed	Seed treatment
Wet rot or white blight	Infected plants are to be collected along with sclerotia & burnt. The following spray schedule may also be adopted		Foliar spray
	Hexaconazole	0.2% (1200-1400 ml mixed with 600-700 lit water/ha) (160-185 ml/80-90 lit water /bigha)	

Protection against storage pests:

Properly dried seeds of lentil should be mixed thoroughly with black pepper seed powder @ 3g/kg of seed for protection against bruchid infestation during storage. Treated seeds should be kept in poly bags with outer covering of gunny bags.

Harvesting:

Harvesting should be done when 70-80 % pods turn yellow to brownish in colour.

Average yield: 12.0 q/ha