

GREENGRAM & BLACKGRAM

GREENGRAM

Kharif: LGG 407, LGG 460, TM 96-2, IPM 2-14 and WGG 42.

Rabi-Uplands: LGG 460, LGG 407, TM 96-2, WGG 42, IPM 2-14.

Rice fallows: LGG 460, TM 96-2, LGG 410, LGG 407, IPM 2-14.

Summer: LGG 460, LGG 407, WGG 42, IPM 2-14.

BLACKGRAM

Kharif : LBG 752, LBG 20, T 9, Pant U 31, LBG 787, TBG 104 and GBG 1.

Rabi-Uplands: LBG 752, LBG 685, LBG 645, LBG 709, LBG 20, PBG 107, LBG 787, T 9,

PU 31, TBG 104 and GBG 1.

Rice fallows: LBG 648, LBG 645, LBG 685, LBG 709, LBG 752, LBG 787, TBG 104 and GBG 1.

Summer: LBG 752, PU 31, LBG 20, T 9, TBG 104, LBG 787 and GBG 1.

Soils/Areas: All types of soils with good drainage facilities. Saline soils are not suitable.

Land Preparation:

Land should be prepared to fine tilth with two ploughings followed by harrowing.

Sowing time:

Crop	Kharif	Rabi uplands	Rice fallows	Summer
Greengram & Blackgram	June 15 - July 15	First fortnight of October	2nd fortnight of November to first fortnight of December	Mid February to mid of March (uplands) March 15 th to March ending.(Rice fallows)

Seed rate :

Crop	Kharif	Rabi uplands	Rice fallows	Summer
Greengram	15-16 kg/ha	15-16 kg/ha	30-32 kg/ha	16-18 kg/ha
Blackgram	18-20 kg/ha	18 -20 kg/ha	40-45 kg/ha	20 kg/ha

Seed treatment : Treat the seed with captan/ thiram / mancozeb / carbendazim 2.5 g per kg seed and imidacloprid 600 FS @ 5 ml or thiamethoxam 70 WS 5g /kg seed 24-48 hours before sowing to protect the crop from sucking pests and diseases upto 15-20 days after sowing. First treat the seed with fungicide and allow to dry for 30 – 60 min, then treat the seed with insecticide and dry them in shade. Later treat the seed with *rhizobium* 20 g/kg seed before one hour of sowing.



Spacing: 30 x 10 cm

Manures and fertilizers: 20 N + 50 P2O5 kg/ha as basal dose

Intercultivation : Twice at 20 and 30 DAS

Weed Control : Spray pendimethalin at 2.5 to 3.5 lt/ha immediately after sowing or the next day to check the weed growth for the first 20-25 days. Post-emergence application of (if needed) imazethapyr 500 ml/ha at 20-25 days after sowing will control all weed flora if only grassy weeds are problem spray quizalofop ethyl 1.0 lt/ha.

Irrigation : Usually grown as rainfed. Irrigate twice if water is available at 30 and 50 DAS to get higher yields.

Pest management:

Stem fly: Seed treatment as above. Spray acephate 1.0 g or monocrotophos 1.6 ml or dimethoate 2.0 ml per litre twice at weekly intervals from 10 days after sowing.

Flea beetles: Seed treatment as above. Spray monocrotophos 1.6 ml or acephate 1.0 g or chlorpyriphos 2.5 ml per litre if the incidence is severe.

Thrips : Spray either monocrotophos 1.6 ml or acephate 1.0 g or fipronil 1.5 ml or dimethoate

ml or spinosad 0.3 ml or acetamiprid 0.2 g or thiamethoxam 0.2 g per litre.

Whitefly: Foliar application of 5 % NSKE at 20 DAS as prophylactic spray against whitefly that transmits YMV. Spray monocrotophos 1.6 ml or triazophos 1.5 ml or acetamiprid 0.2 g per litre

Aphids: Spray either acephate 1.0 g or monocrotophos 1.6 ml or imidacloprid 0.3 ml or acetamiprid 0.2 g per litre.

Maruca Pod borer :

- Monitor the occurrence of adult moths at flower bud initiation stage of blackgram/greengram (i.e at 30-35 DAS).
- Application of 5% NSKE or neem oil @ 5 ml/lt should be taken up before flower bud initiation or at 35 DAS to avoid egg laying by Maruca adults.
- Spray acephate 1.0 g or chlorpyriphos 2.5 ml or quinalphos 2.0 ml or thiodicarb 1.0 g per litre at the time of flowering initiation. Add dichlorvos 1.0 ml per litre to the above chemicals if more number of webbings were observed in the crop.
- In case of severe incidence, spray either novaluron 1.0 ml or spinosad 0.3 ml or emamectin benzoate 0.4 g or chlorantraniliprole 0.3 ml or flubendiamide @ 0.2 ml/lt

- First spray should be given one week before flowering initiation as and when the adult population is noticed in the crop.
- Use 500 liters of spray fluid per hectare with hand compression sprayer
- Use 150-170 liters of spray fluid per hectare and increase the insecticide dose three times while using power or Taiwan sprayer,
- Repeat the spray twice at 7 days interval by changing the insecticide depending on the intensity of the pest.
- Do not spray the crop during early morning hours until the dew on leaf surface dries off

Tobacco caterpillar:

- Growing of castor as trap crop to monitor egg laying and hatching,
- Collection and destruction of skeletonised leaves along with first instar larvae,
- Spraying of SNPV 500 LE/ha.
- Spray either chlorpyriphos 2.5 ml or acephate 1g or quinolphos 2 ml per litre against early instars.
- Apply poison bait containing rice bran, jaggery and insecticide (carbaryl /chlorpyriphos / monocrotophos) 10:1:1 ratio against grown up caterpillars in the evening hours.

Disease management:

Collar rot/root rot:

- Deep summer ploughing
- Seed treatment with captan/ thiram / mancozeb / carbendazim @ 2.5 g per kg and *Trichoderma viride* @ 4 g/kg

Anthracnose, Cercospora, Alternaria, Corynespora leaf spots :

- Seed treatment as above
- Spray carbendazim 0.1% or mancozeb 0.25% or hexaconazole 0.2% or propiconazole 0.1% by alternating the chemicals twice at 10 days interval.

Powdery mildew:

- Spray carbendazim 0.1% or thiophanate methyl 0.1% or hexaconazole 0.2% or propiconazole 0.1% twice at 10 days interval soon after noticing the disease.

Plant protection schedule in rice fallows:

Diseases: Corynespora leaf spot, Anthracnose, Cercospora leaf spot, Powdery mildew and Alternaria leaf spot

30-35 DAS: Hexaconazole 2 ml/lt

DAS: Propiconazole 1 ml/lt



Integrated management of viral diseases in blackgram and greengram:

- Cultivate YMV resistant/ tolerant varieties
- Mungbean : LGG 460, LGG 407, WGG 42, IPM 2-14
- Urdbean : LBG 752, LBG 787, PU 31, TBG 104, GBG 1.
- Treat the seed with imidacloprid 600 FS @ 5 ml or thiamethoxam 70 WS 5 g which is compulsory to escape from viral diseases.
- Remove and destroy the MYMV and other viral diseased or infected weeds in the fields/ on the field bunds/ around the fields.
- Sow four rows of maize or jowar or bajra around the field as a guard crop to prevent the movement of vector population from neighboring fields.
- Rogue out and destroy the viral infected plants when observed in the field
- Erect yellow sticky traps for whiteflies and blue sticky traps for thrips @ 20/acre for each pest to monitor the vector population.
- Spray 1500 ppm neem oil 5 ml/l or NSKE 5% at 15 days interval to destroy the eggs and nymphal population of the vector
- Spray triazophos 1.5 ml or monocrotophos 1.6 ml or acephate 1.0 g or profenophos 1.5 ml or acetamiprid 0.2 g or thiamethoxam 0.2 g per litre at 10-15 days interval against whiteflies.
- Spray monocrotophos 1.6 ml or acephate 1.0 g or thiamethoxam 0.2g or fipronil 1.5 ml or spinosad 0.3 ml per litre against thrips.
Spray acephate 1g or imidacloprid 0.4 ml or acetameprid 0.2g or thiamethoxam 0.2g or monocrotophos 1.6 ml or dimethoate 2 ml per litre against aphids