

Crop 15
Greengram
Vigna radiate

- *Vigna radiata*
 - Syn: *Phaseolus aureus*, *Vigna aureus*, *Azuki radiata*
- Commonly called as Mung bean
 - Third important crop of pulses next to Chickpea & PP
 - Versatile for grain, forage and green manure, as mixed, or sole crop or catch crop
 - Enrichment of soil by fixing atmospheric N
 - Highly nutritious (23-24% protein)
- Area & Production
 - Widely cultivated among Asiatic species
 - India, Pak, Bangladesh, Sri Lanka, Thailand, Laos, Cambodia, Vietnam, Indonesia, Malaysia, S. China & Formosa
 - Also in Africa, USA & Australia

Indian Scenario

Zone	State	Million ha	Million t	t / ha
North	UP	0.11	0.07	0.59
	Punjab	0.05	0.04	0.83
West	Maharashtra	0.66	0.28	0.42
	Rajasthan	0.42	0.08	0.19
	Gujarat	0.17	0.05	0.27
	MP	0.13	0.04	0.33
South	AP	0.44	0.17	0.38
	Karnataka	0.18	0.07	0.40
	TN	0.15	0.06	0.42
East	Orissa	0.78	0.40	0.51
All India		3.30	1.37	0.42

- Origin & distribution
 - Indian sub-continent
 - Maximum diversity among related species
 - Several botanical varieties of mung bean
 - They differ in habit, size of plant, period of maturity, color of pods & size, color seeds
- Climatic requirement
 - Short and long day plants available
 - Summer & Kharif in N India
 - Winter in peninsular India
 - Drought resistant but susceptible to frost, water logging and salinity
 - 30-35°C but up to 40°C

- Rains during flowering detrimental
- A hot humid with sufficient soil moisture is ideal
- The plant
 - Profusely branched with tendency to twine
 - Deep rooted but confined to 30cm
 - Leaves alternate, trifoliate & dark green
 - Plant height from 30- 120cm
 - Flowers are auxiliary or terminal racemes in clusters of 10-25
 - Each pod contains 10-20 globose or oblong seeds
 - Seed weight varies from 15 to 40mg (15 to 40g/1000)
- Varieties
 - Many varieties
 - In TN
 - Paiyur 1
 - ADT2, ADT 3
 - CO4, CO5
 - KM2, VBN 1, KI
- Season
 - Mostly Kharif & summer in north
 - Winter for south
- Field preparation
 - Generally depends up on season
 - Deep ploughing once
 - Moderate tith to surface
 - May be beds & channel
 - Border strip
 - Or for inter cropped community – ridges & furrows
- Spacing & seed rate
 - 30 x 10 cm
 - 333,000 optimum plants
 - An inter-plant spacing of 5-10cm seems better than 10-15 or 20
 - Also row spacing of more than 30cm is not productive
 - Certain varieties give higher yield at 30x5 or 666,000 plants
 - Seed rate may vary from 15 – 20kg
 - Summer 25 kg
- Seed treatment and sowing
 - Against biofertilizers must
 - Two seeds per hole
 - Rill sowing or sowing by seed drill
 - Broadcasting – uneven plant stand
- Nutrient management
 - Removal- 40-42kg N; 3-5kg P; 12-14kg K /t of grain
 - N as starter dose
 - P more essential
 - Schedule
 - Rainfed : 12.5 :25 : 0 kg

- Irrigated: 25 : 50: 0 kg
 - Under rainfed foliar application of DAP 2% twice once at flowering and 10 days later
- Water management
 - IW/CPE ratio of 0.6 is suitable
 - 2-3 irrigations at critical periods – flowering and pod setting
- Weed management
 - Hand weeding or inter cultural implements twice
 - PE application of Fluchloralin 0.75 kg or Pendimethalin 0.75kg on 3rd day after sowing
- Cropping systems
 - It is intercropped with cereals or oil seeds
 - Pure crop
 - After main cropping season as residual crop
 - Rice fallow pulse
 - Rice –Rice – greengram – blackgram
- Harvest
 - At 80% pods turn brown
 - Or staggered pod picking
 - Entire plant may be cut dried and threshed and cleaned and stored at 8-10%