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# Precautions to be followed in Rabi Red Gram Cultivation in Telangana

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Chickpea (*Cicer arietinum* L.), known as Bengal gram, often referred as the "King of Pulses", is an important pulse crop of the Fabaceae family, and is cultivated in more than 50 countries across Asia, Europe, Australia, North America and South America. China is the leading producer of redgram (3759 kg/ha) followed by Israel, Republic of Moldova and Bosnia and Herzegovina, whereas India's productivity is only 1160 kg/ha (Indian stat 2024-25). During 2024–2025, chickpea production in India was estimated at 11.5 million tonnes which is about 50% of India's total pulse production. In India, chickpea is grown almost in all parts of the country mainly as a rainfed crop (68% area). In Telangana, the major red gram growing districts and their cultivated areas are: Vikarabad – 42,233 ha (1,04,360 acres), Sangareddy – 31,356 ha (77,483 acres), Narayanpet – 25,396 ha (62,756 acres), Kamareddy – 22,547 ha (55,715 acres), Adilabad – 19,441 ha (48,039 acres), and Gadwal – 17,549 ha. As per the 2nd advance estimates of the Telangana State Government, red gram production in 2024–25 is projected at 1.70 lakh tonnes from 2.13 lakh hectares (5.26 lakh acres), with an average productivity of 798 kg/ha (323 kg/acre) (Red gram outlook PJTAU, 2025)

When sowing during the *kharif* (monsoon) season is not feasible, or if the first crop is completely lost due to heavy rains or drought, pigeonpea (red gram) can be cultivated as an alternative. It can also be grown as a second crop following short-duration pulses like green gram (mung bean) or black gram in early *kharif*. Early *kharif* pigeonpea tends to grow very tall, making pest management, especially of pod borers, challenging. In contrast, *rabi* pigeonpea flowers in January, when the incidence of the gram pod borer (*Helicoverpa armigera)* is comparatively low. This article highlights the management practices for preventing major pests in *rabi*-season red gram cultivation.

**Favourable climate**

- A warm and moist environment is essential for seed germination.
- An optimum temperature of 15–18 °C is required during flowering and pod development.
- Redgram cannot tolerate waterlogging, excessive rainfall, or snowfall.
- Hailstorms and rain during the ripening stage cause serious crop damage.

**Soils**

- Redgram grows well in well-drained red sandy loam soils, light soils with good drainage, and black cotton soils with proper drainage.
- Waterlogged soils are unsuitable for its cultivation.

**Sowing time:** From September 20 to October 20

**Seed rate:** 4–6 kg per acre

**Spacing**

- Under rainfed conditions: **45–60 cm** between rows and **10 cm** between plants.
- Under irrigated conditions: **75–90 cm** between rows and **10 cm** between plants.

**Seed treatment**

Redgram seeds should be treated with Thiram or Captan at the rate of 3 g per kg of seed. Prior to sowing, the treated seeds should be coated with Rhizobium culture powder at 200–400 g per acre seed requirement, shade-dried, and then used for sowing.

**Water management**

- Rabi pigeonpea requires 2 to 3 irrigations**.**
- One irrigation before flowering,
- One before pod formation, and
- One during the pod development stage.
- If the crop is affected by drought, spray 20 g urea per litre of water **or** 10 g Multi-K per litre of water**.**

**Weed management**

Within two days of sowing, apply Pendimethalin 30% EC @ 1.3–1.6 litres diluted in 200 litres of water, and spray it in an acre.

**Pest Management**

**1. Leaf webber**

- This pest mainly attacks during the crop growth stage. The larvae web the tender leaves and feed from inside, causing damage.
- **Control:** Spray Quinalphos 25% EC @ 2 ml per litre of water.

**2. Spotted pod borer (*Maruca vitrata*)**

- Larvae web the leaves, flowers, and pods together and bore into buds, flowers, and pods. Larval excreta can be seen at the bored holes.

**Control:** Spray any one of the following per litre of water:

- Spinosad 45% SC @ 0.3 ml
- Emamectin benzoate 5% SG @ 0.4 g
- Flubendiamide 39.35% SC @ 0.2 ml

**3. Gram pod borer (*Helicoverpa armigera*)**

- Initially feeds on buds, later bores into pods, inserting its head inside while the body remains outside, damaging the seeds.

**Control at pod initiation stage:**

- Quinalphos 25% EC @ 2 ml or
- Acephate @ 1.5 g per litre of water

➢ When infestation is severe, spray any one of the following per litre:

- Indoxacarb 14.5% SC @ 1 ml
- Spinosad 45% SC @ 0.3 ml
- Emamectin benzoate 5% SG @ 0.4 g

**4. Green pod borer**

This pest attacks mostly at the final stage of the crop. Larvae are green initially and later turn pinkish-red. They bore into mature pods, feed on seeds, and leave excreta inside the pods. **Control:** Spray Acephate 75% @ 1.5 g or Quinalphos 25% EC @ 2 ml per litre of water.

**Diseases**

**Phytophthora wilt**

This disease is more common in waterlogged areas. In the early stage, plants dry up in patches. When the disease becomes severe, branches and the main stem break. To control this disease, spray Mancozeb at 3 g per litre of water.

**Fusarium wilt**

When this disease attacks, plants either dry completely or partially. If an affected plant is uprooted and the stem is split open, brown vertical streaks can be seen. There are no effective chemical control measures for this disease; therefore, resistant varieties such as ICPL 87119, WRG 65, TDRG 4, ICP 8863, and ICPH 2740 should be cultivated.

**Nipping in Redgram Crop**

Nipping involves removing the top 3 inches of the plant when the crop is 45–60 days old and the plants are about 3 to 4 feet tall. This practice encourages strong lateral branching, increases flowering and pod formation, and ultimately improves yield.

**Harvesting**

The crop should be harvested when about 80% of the pods are fully mature, as flowering in redgram continues for nearly two months. After harvesting, the plants should be well dried, and then the seeds should be separated from the pods.

**Redgram varieties suitable for *rabi* cultivation**

| Variety | Duration (Days) | Yield (q/acre) | Special Features |
|---|---|---|---|
| **TDRG-59** | 130–140 | 6–7 | • Bold and dark brown seeded variety<br>• Highly resistant to Fusarium wilt and sterility mosaic disease<br>• Less damage from pod borer and pod fly |
| **Hanuma (TDRG-4)** | 125–135 | 6–8 | • Resistant to Fusarium wilt<br>• Moderately tolerant to sterility mosaic virus<br>• Good tolerance to gram pod borer |
| **WRG-97** | 125–135 | 6-8 | • Medium bold red seeded variety<br>• Moderately resistant to Fusarium wilt<br>• Moderately tolerant to drought conditions |
| **Warangal Redgram-2 (WRG-255)** | 130–140 | 6-7 | • Bold red seeded variety<br>• Resistant to Fusarium wilt |

## Conclusion

Rabi red gram cultivation in Telangana offers a reliable opportunity for farmers to achieve stable yields with comparatively lower pest pressure than in *kharif*. By selecting suitable varieties, following timely sowing, adopting proper spacing, seed treatment, balanced irrigation, and effective weed and pest management practices, farmers can significantly improve crop health and productivity. Timely monitoring and management of pests and disease, nipping, and timely harvesting further improves the potential yield. By adopting the recommended cultivation practices and timely plant protection measures, farmers in Telangana can achieve successful rabi red gram cultivation, obtain higher profits, and promote sustainable pulse production in the state.

## References

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