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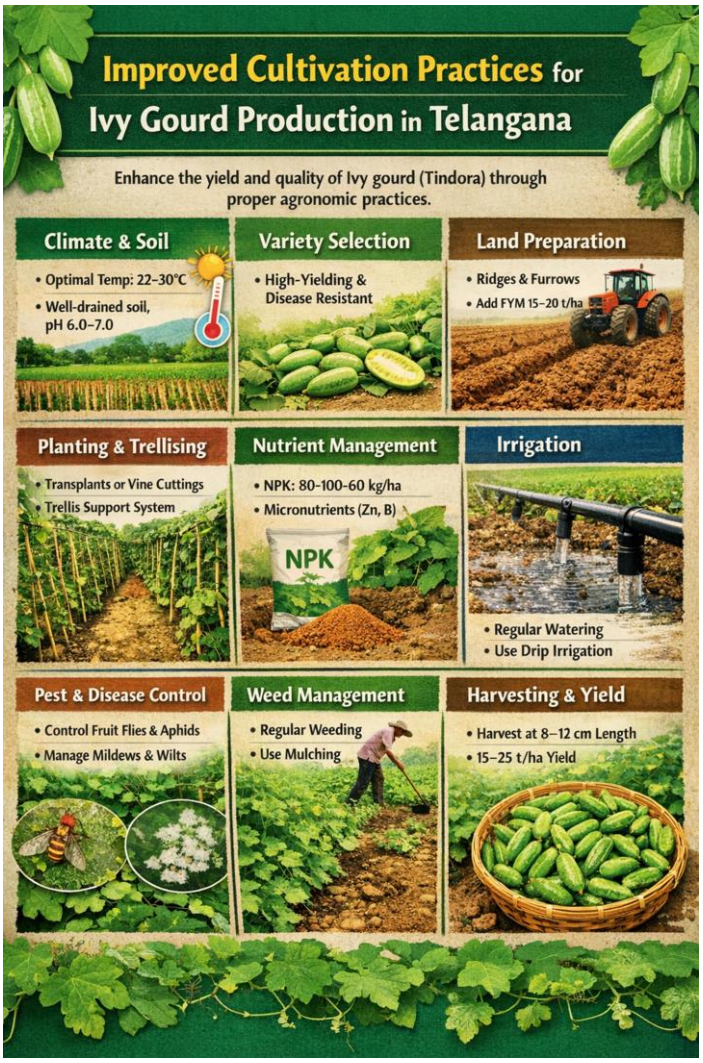
Cultivation Practices to Improve Ivy Gourd Production in Telangana

K. Madhusudhan Reddy

Ph.D., in Horticulture (Vegetable Science), Bihar Agricultural University, Sabour, Bhagalpur

INTRODUCTION

Ivy gourd (*Coccinia grandis*), locally called "tindora" or "kakdi," is a nutritious cucurbit vegetable with high demand in Telangana. Productivity can be improved by adopting proper agronomic practices, nutrient management, pest control, and post-harvest care.



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*Corresponding Author
K. Madhusudhan Reddy*

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Climate and Soil Requirements

- ✓ Ivy gourd grows well in warm and humid conditions with temperatures between 22–30°C.
- ✓ Well-drained sandy loam to loam soils with good organic matter are ideal.
- ✓ Soil pH should be maintained between 6.0 and 7.0.
- ✓ Waterlogged and heavy clay soils should be avoided.
- ✓ Soil testing is recommended to adjust fertilizer and micronutrient application.

2. Varietal Selection

- ✓ High-yielding and disease-resistant varieties should be selected for Telangana conditions.
- ✓ Varieties with compact vine growth and early maturity enable better management and multiple harvests.
- ✓ Certified seeds or quality vine cuttings ensure uniform growth and higher yields.
- ✓ Improved cultivars like Pusa Round and local Telangana selections are recommended.

3. Land Preparation

- ✓ Deep ploughing followed by 2–3 harrowings ensures a fine seedbed.
- ✓ Stubbles and perennial weeds should be removed to reduce pest and disease carryover.
- ✓ Ridges and furrows spaced 75–90 cm apart improve drainage during rains.
- ✓ Well-rotted FYM or compost at 15–20 t/ha should be incorporated to enhance soil fertility.

4. Planting Time and Methods

Planting should be done at the onset of monsoon (June–July) or winter (October–November) with irrigation facilities. Transplants raised in polybags or seedbeds should be transplanted at the 3–4 leaf stage. Healthy vine cuttings of 25–30 cm can be planted directly in the field. Spacing of 60–90 cm between rows and 30–45 cm between plants allows proper vine spread and sunlight penetration.

5. Nutrient Management

Basal application of N (80–100 kg/ha), P_2O_5 (50–60 kg/ha), and K_2O (60–80 kg/ha) is recommended.

- ✓ FYM or compost at 15–20 t/ha should be applied before planting.
- ✓ Nitrogen should be split, with half at planting and half at first picking.
- ✓ Micronutrients like zinc and boron should be applied if deficiency symptoms appear.
- ✓ Organic amendments and biofertilizers improve soil health and reduce chemical use.

6. Irrigation Scheduling

- ✓ The first irrigation should be given immediately after planting.
- ✓ Soil moisture must be maintained during flowering and fruiting stages.
- ✓ Irrigation should be scheduled every 7–10 days depending on weather and soil type.
- ✓ Waterlogging must be avoided to prevent root rot and fungal diseases.
- ✓ Drip irrigation is recommended to conserve water and enhance nutrient efficiency.

7. Trellising and Training

- ✓ Vines should be supported using bamboo poles, trellis wires, or polythene nets.
- ✓ Vines should be trained vertically to improve sunlight penetration and air circulation.
- ✓ Vertical training reduces pest and disease incidence.
- ✓ Proper trellising makes harvesting easier and improves fruit quality.
- ✓ Lateral shoots should be pruned to enhance fruit size and vine vigor.

8. Weed Management

The first weeding should be done 20–25 days after planting. The second weeding should be done at 30–35 days after planting. Mulching with straw or plastic helps suppress weeds and conserve moisture. Deep hoeing should be avoided to prevent damage to shallow roots.

9. Pest and Disease Management

- ✓ Fruit flies should be controlled using methyl eugenol or cue lure traps and by removing infested fruits.
- ✓ Aphids and whiteflies should be managed with neem oil or recommended insecticides at early infestation.
- ✓ Red pumpkin beetles should be removed manually or controlled with insecticides if necessary.
- ✓ Powdery mildew should be managed with sulfur or neem-based sprays.
- ✓ Downy mildew should be controlled using copper oxychloride or systemic fungicides.
- ✓ Fusarium wilt incidence should be reduced through crop rotation and resistant varieties.

- ✓ Integrated pest management (IPM) should be adopted to minimize chemical use and environmental impact.

10. Harvesting and Yield

- ✓ Tender fruits should be harvested at 8–12 cm length.
- ✓ Fruits should be picked every 2–3 days to encourage continuous production.
- ✓ Morning harvest reduces heat-induced wilting and preserves quality.
- ✓ Well-managed fields can yield 15–25 t/ha.
- ✓ Fruits should be handled carefully to avoid bruising and maintain market value.

11. Post-Harvest Handling and Marketing

- ✓ Fruits should be graded by size for uniform packing.
- ✓ Cool and ventilated storage should be used to prolong shelf life.
- ✓ Farmers should establish linkages with local markets, retailers, or processing units.
- ✓ Value addition, such as pickling or freezing, can expand market options.

12. Economic and Environmental Sustainability

Organic amendments and biofertilizers should be used to reduce input costs. Intercropping with legumes like cowpea improves soil nitrogen and biodiversity. Integrated pest management reduces chemical dependency and protects beneficial insects. Renewable trellis materials and efficient irrigation minimize environmental impact.

13. Role of Farmer Training and Extension Services

Farmer training programs should focus on improved cultivation, pest management, and post-harvest practices. Collaboration with KVKs, horticultural departments, and NGOs helps in technology adoption. Digital advisories and mobile apps can be used to monitor weather, pests, and market prices.

CONCLUSION

Adoption of improved cultivation practices such as high-yielding varieties, balanced nutrition, proper irrigation, trellising, and IPM can enhance ivy gourd productivity in Telangana. Scientific practices, combined with farmer training and market linkages, ensure sustainable, profitable, and high-quality production.