

For optimal crop growth in Indian conditions, specific ranges of humidity, temperature, and soil moisture are essential. These ranges can vary depending on the crop. Here are the general safe limits for common crops in India:

1. Rice (Paddy)

- **Temperature:** 20°C to 35°C (optimal 25°C to 30°C)
- **Humidity:** 70% to 90%
- **Soil Moisture:** 70% to 80% of field capacity (requires standing water during early stages)

2. Wheat

- **Temperature:** 10°C to 25°C (optimal 20°C to 25°C during growth and 14°C to 18°C during ripening)
- **Humidity:** 50% to 70%
- **Soil Moisture:** 60% to 80% of field capacity

3. Maize (Corn)

- **Temperature:** 18°C to 32°C (optimal 20°C to 30°C)
- **Humidity:** 50% to 60%
- **Soil Moisture:** 60% to 75% of field capacity

4. Sugarcane

- **Temperature:** 20°C to 38°C (optimal 27°C to 33°C)
- **Humidity:** 70% to 80%
- **Soil Moisture:** 70% to 80% of field capacity

5. Cotton

- **Temperature:** 25°C to 35°C (optimal 28°C to 30°C)
- **Humidity:** 50% to 60%
- **Soil Moisture:** 50% to 60% of field capacity

6. Tomato

- **Temperature:** 18°C to 30°C (optimal 20°C to 25°C)
- **Humidity:** 60% to 70%
- **Soil Moisture:** 70% to 80% of field capacity

7. Potato

- **Temperature:** 15°C to 25°C (optimal 17°C to 19°C)
- **Humidity:** 60% to 70%
- **Soil Moisture:** 60% to 80% of field capacity

8. Groundnut (Peanut)

- **Temperature:** 21°C to 35°C (optimal 30°C)
- **Humidity:** 60% to 70%
- **Soil Moisture:** 50% to 70% of field capacity

9. Banana

- **Temperature:** 20°C to 35°C (optimal 26°C to 30°C)
- **Humidity:** 70% to 90%
- **Soil Moisture:** 70% to 80% of field capacity

10. Chilli

- **Temperature:** 20°C to 30°C (optimal 25°C)
- **Humidity:** 50% to 60%
- **Soil Moisture:** 60% to 70% of field capacity

11. Mango

- **Temperature:** 24°C to 30°C (optimal 26°C to 28°C)
- **Humidity:** 60% to 80%
- **Soil Moisture:** 50% to 70% of field capacity

12. Tea

- **Temperature:** 18°C to 30°C (optimal 22°C to 28°C)
- **Humidity:** 70% to 90%
- **Soil Moisture:** 70% to 80% of field capacity

13. Coffee

- **Temperature:** 15°C to 28°C (optimal 20°C to 25°C)
- **Humidity:** 70% to 80%
- **Soil Moisture:** 60% to 80% of field capacity

14. Coconut

- **Temperature:** 27°C to 32°C (optimal 29°C to 30°C)
- **Humidity:** 60% to 90%
- **Soil Moisture:** 70% to 80% of field capacity

15. Mustard

- **Temperature:** 15°C to 25°C (optimal 20°C to 25°C)
- **Humidity:** 50% to 70%

- **Soil Moisture:** 60% to 70% of field capacity

These values are general guidelines and can vary based on specific varieties, local conditions, and agricultural practices. Additionally, maintaining consistent conditions within these ranges is crucial for achieving optimal growth and yields.