Pulses Cultivation Guide

Introduction Pulses are an essential group of leguminous crops grown for their high protein content, making them a staple in many diets worldwide. Common pulses include lentils, chickpeas, black gram, green gram, pigeon pea, and kidney beans. These crops also contribute to soil fertility by fixing atmospheric nitrogen, making them an important part of sustainable agriculture.

Steps to Harvest/Cultivate

1. **Selection of Variety:** Choose high-yielding and disease-resistant varieties based on the specific pulse being cultivated. Popular varieties include Pusa Vaibhav (Lentil), Pusa Vishal (Chickpea), and IPM-02-03 (Green Gram).
2. **Soil Preparation:**
    - Pulses grow best in well-drained loamy or sandy-loam soil with a pH of 6.0 to 7.5.
    - The field should be plowed and harrowed to ensure a fine seedbed.
    - Apply organic manure or compost to enhance soil structure and fertility.
3. **Planting:**
    - Sowing time varies based on the crop:
        - **Lentils & Chickpeas:** Rabi season (October-November)
        - **Green Gram & Black Gram:** Kharif and summer seasons (June-July & February-March)
    - Seeds should be sown at a depth of 3-5 cm with appropriate row and plant spacing based on the crop type.
    - The recommended seed rate depends on the pulse variety (e.g., 35-45 kg/ha for lentils, 15-20 kg/ha for green gram).
4. **Watering:**
    - Most pulses require minimal irrigation and grow well under rainfed conditions.
    - Provide irrigation at critical stages such as flowering and pod formation.
    - Avoid excessive moisture, as it can lead to fungal diseases.
5. **Fertilization:**
    - Apply nitrogen (20-30 kg/ha), phosphorus (40-50 kg/ha), and potassium (20-30 kg/ha) based on soil test recommendations.
    - Use Rhizobium inoculation to enhance nitrogen fixation and improve soil fertility.
6. **Weed Management:**
    - Regular weeding is necessary during early growth stages to prevent competition for nutrients.
    - Mulching with organic materials helps suppress weeds and retain soil moisture.
7. **Pest and Disease Control:**
    - Common pests include aphids, pod borers, and cutworms. Neem-based sprays or biological pesticides can be used for control.
    - Diseases such as rust, wilt, and powdery mildew can be managed by using resistant varieties and practicing crop rotation.
8. **Harvesting:**

- Pulses are ready for harvest 90-120 days after sowing, depending on the variety and growing conditions.
- Harvest when the plants turn yellow, and the pods are fully mature.
- Plants are cut and dried before threshing to separate the seeds.

9. **Post-Harvest Processing:**
    - After harvesting, seeds should be properly dried to reduce moisture content.
    - Cleaning, grading, and proper storage in moisture-free conditions prevent damage and maintain seed quality.

Conclusion Pulse cultivation is a highly beneficial and profitable farming practice due to its role in improving soil health and providing essential nutrients. By following best agronomic practices, proper pest management, and timely harvesting, farmers can achieve high yields and enhance sustainability in agriculture. The increasing demand for pulses in global markets makes them a valuable crop choice for small and large-scale farmers alike.