

HORTICULTURE

LOW COST INPUT TECHNOLOGY FOR POTATO PRODUCTION



Large scale potato production—
Farmers' sorting potatoes

Potato is one of the most input intensive crops. At the optimum level of adoption of inputs and cultural operations, about 35–40% of the cost is for seed, nearly 40% for labour, 14% fertilizers and manure, and 7% for irrigation. Therefore, the Central Potato Research Institute (CPRI), Shimla has developed low cost input technology. By its proper adoption savings can be on labour, seed, tillage, fertilizer and irrigation inputs in potato per se as well as in the potato based cropping system.

TILLAGE

- Practice minimum tillage. Go in for green manuring during *kharif* season, and then one harrowing followed by one planking for land preparation to sow potatoes. Make ridges right at planting to save cost on second earthing up.
- Saving in land preparation could also be affected in wheat following potato since the soil tilth is greatly improved at the time of harvesting of potato. Use low cost implements being developed by CPRI like peg type intercultivator, rotary peg type intercultivator, rotating blade type inter cultivator, and cup type potato planter.

SEED

- Use small size seeds with an adjustment in the planting geometry to reduce the seed requirement by about 50%. The large size tubers can also be effectively planted by increasing the plant spacing.

FERTILIZERS

- Grow high yielding varieties requiring low fertilizer input. Apart from using nutrient efficient varieties, make judicious choice of source of nutrient and method of application.

- Application of urea a day before planting mitigates the injurious effect. Apply half of the recommended dose of Phosphorous (P) at planting and the other half through foliar spray to enhance its efficiency and reduce the dose. Considerable saving in P fertilizers can be achieved by soaking seed tubers for 4 hours in 1.5% Single Super Phosphate + 0.5% Urea along with a suitable fungicide.
- In wheat following potato, apply only half of the recommended Nitrogen and no Phosphorous and Potash as their requirement is met out of the residues left by potato crop.

WATER MANAGEMENT

- Apply irrigation in a judicious manner. In medium textured soils, irrigate at critical soil moisture deficit of 25 mm, which reduces the water requirement by 100 mm. Adopt alternate furrow irrigation by which 25–35% water saving can be achieved, but there could be about 10% decrease in yield.
- If labour is easily available and cheap, practice paddy straw mulching which can save 1–2 irrigations.

WEED MANAGEMENT

Many of the cultural operations are complimentary to each other. Weed control is one such operation, which is benefited by many other cultural operations. Hot weather cultivation, recommended for control of soil borne pathogens also mitigates the problem of weeds. Similarly, mulching for water economy reduces the weeds.

PESTS AND DISEASE MANAGEMENT

Late blight is the most serious disease affecting the crop in the northern Gangetic plains. Adopt high yielding resistant varieties. Use healthy seed and go in for hot weather cultivation along with adoption of appropriate crop sequences to minimize the problem of pest and diseases.

For more details contact:

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