



Package of practices for ware and seed potato production in Nilgiri hills



Central Potato Research Institute
(Indian Council of Agricultural Research)
Shimla-171 001

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Introduction

The potato crop occupies an important place in commercial agriculture. The Tamil Nadu State accounted for about 7000 hectares which is less than 1% of the national potato area. The average per hectare yields of the State were about 18 tonnes totalling to an annual production of one lakh twenty six thousand metric tonnes. The Nilgiris District is the major potato producer of the Tamil Nadu state.

Due to the mild temperature, throughout the year, coupled with almost evenly spread rains, the potato crop may be cultivated throughout the year. Often two crops of potato are taken on the same land in one year. The summer or main crop (March-April to August) earlier occupied the largest area and is dependent on the South-West monsoon. The autumn crop (August to December) is raised during the North-east monsoon. For the last 2-3 years this area has increased and both these crops are rainfed. The winter crop (January-May) occupies a smaller area of about 750 to 800 hectares.

1. **Cultivars:** Kufri Jyoti and Kufri Swarna are recommended for summer and autumn crop. Kufri Jyoti is more suitable for irrigated crop.
2. **Seed source:** Seed should be procured from a reliable source like state departments or government agencies. The incidence of aphids, which are the vectors of viral diseases, is high in the autumn and winter crops and low in the summer crop. Hence, the product of the summer crop is a good seed source. If the farmers are using their own seed, it is better to replace it every 3-4 years. Care should be taken while using seed from plains of Karnataka as it may carry bacterial wilt infection.
3. **Seed size:** Best seed weight for raising summer crop is 35 to 50 gm, and for autumn crop and irrigated crop 25-40 gm.

4. **Seed preparation:** The seed should be kept in baskets or sprouting trays or spread in a store to ensure proper sprouting. Unsprouted and rotted tubers should be periodically sorted out. Sprouted tubers should be taken to the field for planting in baskets or sprouting trays to avoid damage to sprouts.
5. **Planting time:** The best time for planting summer crop is first week of April. For autumn crop, first fortnight of August, and irrigated crop can be planted from last week of January to the last week of February.
6. **Manuring:** Apply farm yard manure (FYM) @ 150-200 q/ha in furrows before planting. The best fertilizer dose is 90 kg nitrogen, 135 kg phosphate and 90 kg potash/ha. This amounts to 450 kg ammonium sulphate, 850 kg single superphosphate and 150 kg muriate of potash in one hectare. The fertilizers are mixed and applied in furrows at the time of planting.
7. **Organic farming:** Latest studies have shown that using of organic manure from spent mushroom compost, deoiled castor meal, pressmud from sugarcane bagasses and sheep manure increases the yield of potato. These organic manures in addition to the biofertilizers from *Azospirillum*, *Bacillus*, *Pseudomonas*, *Rhizobium* and growth promoters extracted from sea weed enhances the yield by 10-15% under Nilgiri conditions.
8. **Planting:** Make furrows against the slope at 50 cm distance for summer and 40 cm for autumn and irrigated crop. Apply necessary manures and fertilizers and nematicide in furrows and place the tubers at 30 cm for summer crop and 25 cm distance for the autumn and irrigated crop. The tubers may be covered by making ridges of 10 cm immediately after planting the tubers.
9. **Seed rate:** For summer crop about 2.5 t/ha and 2 t/ha for autumn and irrigated crop.
10. **Nematicide application:** For management of potato cyst nematode apply Furadon 3G at 2 Kg. a.i. per hectare. i.e. 65 kg Furadon 3G per hectare.

11. **Intercultivation:** The first earthing up may be done between 40-45 days after planting which will also reduce the weeds.
12. **Weed control:** If weeds are a problem, spray the soil with Paraquat @ 0.4 litre/a.i./ha in 1000 litres water before emergence of the crop.
13. **Cut worm control:** If cut worm damage is noticed, drench the ridges with Chlorpyrifos 20 EC @ 2.5 l/ha in 1250 litres water. This will also control camel beetles.
14. **Late blight control:** Spray the crop with mancozeb 0.2% at an interval of 7-10 days with the onset of monsoon. It should be ensured that the lower surfaces of the foliage are covered with the fungicidal spray. When spraying is done during the rainy seasons a sticker (Triton AE 0.1%) may be used as an adhesive. This spray schedule will control other foliar diseases also. Alternatively crop may be sprayed with metalaxyl formulations like Ridomil MZ.72 once or twice, if disease is not checked by mancozeb.
15. **Harvesting and Marketing:** The crop is harvested as soon as it matures. The harvesting should be done preferably on bright sunny days to minimize the soil sticking to tubers, as this soil may contain nematode cysts. If the crop is to be marketed earlier, the haulms are then cut and the tubers are allowed to remain in the soil for at least 10 days. This will help in curing the tuber skin. All the damaged and rotten tubers are sorted out and marketable tubers graded into different sizes, packed in gunny bags and kept in a cool place till the produce is marketed.
16. **Storage:** Treat potato tubers with quinalphos 1.5% @ 2.5 kg to prevent tuber moth incidence.
17. **Crop rotation:** Adopt crop rotations with vegetables such as cabbage, carrot, beans and radish. Green manuring crops like lupin and buck wheat can also be grown to reduce cyst nematode and brown rot incidence.

For further information contact

- (i) The Head**
Central Potato Research Station
Muthurai, Udagamandalam - 643 004
Tamil Nadu
Phone: (0423) 43629 (O), 42152 (R)
- (ii) The Director**
Central Potato Research Institute
Shimla - 171 001, HP.
Phone: (0177) 225073
Fax: (0177) 224460
E-mail:director@cpri.hp.nic.in.