

Dehaulming is done when the crop is 80-90 days old and the aerial parts of the plant start turning yellow.

In Uttarakhand, all potatoes grown are for table purposes and not for producing "seed tubers".

Harvesting is done in dry weather.

Harvested tubers are dried in the shade.

Damaged and diseased tubers are sorted on farm before storing/packing.

Weeding is done manually

Potato being a short duration and fast growing crop is ideal for intercropping with other crops. In Uttarkashi intercropping of potato-rajma and potato-uggal (a form of) are mostly practiced.

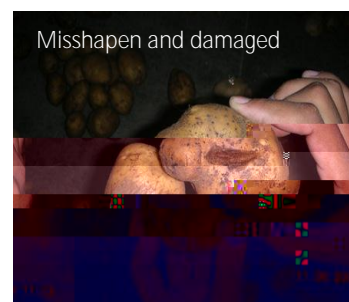


Small galls or knots are formed on potato roots.

Powdery mildew disease is an important problem in potato.

Heavily infested plants are stunted and exhibit early maturity.

Reduction in size and number of tubers reduces the yield and warty 'pimple-like' outgrowths formed on tubers result in qualitative reduction.



Two most important pre-harvest treatments are :

- i. Earthing up
- ii. Weed Control : Weeds can cause production loss up to 20% if not controlled. The most crucial period for preventing loss is to remove the weeds within 35-40 days of planting.

| | | | |
|---|-----------------|---------------------------|-----------|
| 1 | Seed Cost | 10 Qtl x Rs. 3000 | 30,000.00 |
| 2 | FYM | 375 Qtl x Rs. 50.00 | 5,000.00 |
| 3 | DAP-2 Bag | Urea-1 Bag | 1,250.00 |
| 4 | Labour Cost | Field & Bund preparation | 2,500.00 |
| | | Weeding hoeing & earthing | 2,000.00 |
| | | Planting Cost | 3,000.00 |
| 5 | Chemical Cost | (Dithane M -45) | 400.00 |
| 6 | Irrigation cost | | 400.00 |
| 7 | Harvesting Cost | | 4,000.00 |
| 8 | Yield & Income | 70 Qtl | |

In Uttarakhand which is predominated by small and marginal farmers, most farm activities are conducted by the farmer and family. Women farmers were in majority. Harvesting was done by hand. Bullock drawn ploughs are also used in harvesting of potatoes.

Irrigation is stopped around 10 days before harvest to allow the tubers to develop maturity of skin.

While harvesting potatoes, the ridges are dismantled and the potato haulms are buried in the furrows which increases the fertility of the soil.



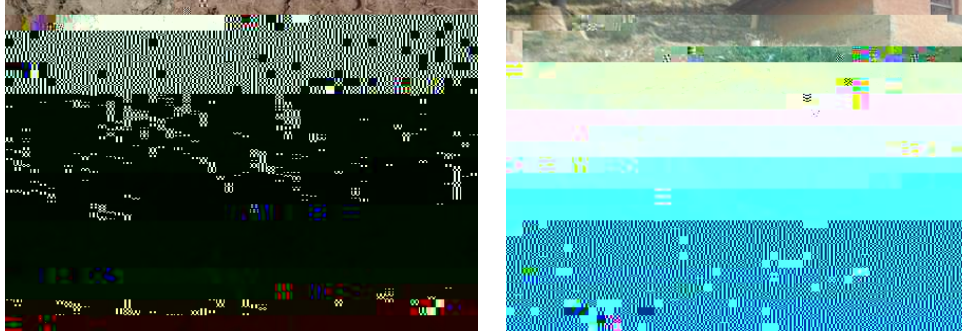
Produce is sorted by the farmer on the basis of well shaped, brightness of colour (esp. reds and yellows), uniformity, firmness, freedom from adhering soil, freedom from bruising (black spot or shatter-bruising), scuffing or skinning, growth cracks, sprouting, insect damage, Black Scurf, decay, greening, or other defects.

Value /price differ according to the quality and size of the produce

Price : Grade 'A' : Rs. 10/kg ; Grade 'B' : Rs.8/kg ; Grade 'C' : Rs. 6/kg (marketing is done through intermediaries).



Information is not available/not practiced. Curing process is followed in some areas at 25°C with a 95 per cent relative humidity. Curing helps in the formation of corky layer at the periphery of the tubers that restricts water loss which occurs immediately after harvesting. Curing also prepares the potatoes for storage.



Handling and packaging of potatoes are done generally on farm. After harvesting, the tubers are kept in a heap temporarily and covered with straw. After a few days, sorting is done for separating the diseased and cut tubers. The sound tubers are packed in gunny bags or nettlon bags. Ordinary gunny bags are used for packing potatoes with a holding capacity of 80 kg, 50 kg and 20kg.



No 'on farm' cooling is done

The losses due to poor handling and storage can sometimes be as high as 40-50 per cent.

Production of potato has increased manifold which leads to a glut situation in the market. The practice of storage helps to stabilize the price.

Storing potatoes for longer period in ambient temperature leads to deterioration of quality of tubers. At optimum condition (7°C for table purpose and 8-12°C for processing purpose), the quality of potatoes remains good in storage for 3-5 weeks.

In Private / Co-operative / Public Storage sectors, potatoes are stored in cold storages at low temperature situated throughout the country. In U.P and Uttarakhand, the number of cold storage are 1371 with the capacity of 8163232 MT. At present there is no functional cold storage in Uttarakhand.

Potatoes are transported by road through mini tempos, tractors, trucks, bullock carts etc.

(i) : The different private agencies such as Producers, Commission agent, Wholesaler, Retailer and consumers are involved in the route of marketing channels of potato. These are

1) Producer Cold storage Commission agent Wholesaler Retailer Consumer

2) Producer Commission agent Wholesaler Retailer Consumer

3) Producer Wholesaler Retailer Consumer

(ii) : Due to price fluctuations and glut situation in the market, some institutions like National Agricultural Cooperative marketing Federation (NAFED), different state govt. agencies, cooperative societies are intervening in the domestic market and Agricultural and Processed Food Export Development Authority (APEDA) for export purpose to stabilize the prices. The marketing channel is

1) Producer

farmers needs to be strengthened along with an efficient supply chain for proper utilization of surpluses in production.

Although the Indian table potatoes dominate the export by about 50 per cent of total potato export followed by frozen potatoes about 28 per cent, seed potatoes about 10 per cent, chip fried about 8 per cent and other frozen preparation nearly 3 per cent, the potatoes grown in Uttarkashi area are either sold locally as table potatoes or transported by truck to Vikas nagar Mandi located near Dehradun for sale in the retail market.

The potato growers of Naugaon area can be classified into two distinct categories in terms of postharvest and marketing costs as follows :

In Naugaon, only one farmer was found loading his produce on a truck after curing the potatoes. Due to curing the potatoes had developed