



POSTHARVEST HANDLING

**Control:**  
Rouge infected plants.  
Control aphids which are insect vectors of viruses.

Harvesting

Dehauling is cutting of the vegetative part of the plant at ground level, when 80 - 85% of the plants start to yellow and wither.

Tubers usually mature 70 to 120 days from planting. Early maturing varieties are ready for harvest at 70 to 90 days while late maturing at 100 to 120 days. Spading fork or sharpened stick can be used to loosen the soil and lift the tubers.

POSTHARVEST HANDLING.

**Sorting and grading** - This activity is done immediately after harvesting. Sorting is done to separate good tubers from bad ones (green, insect damage and mixed tubers). Tubers intended for seeds are selected with size ranging from 35 to 55 mm. Sizes above 55 mm. can be used as table potato.

**Packing** - Tubers intended for seeds are packed in tray brought to the storage house.

The quality of tubers during storage is greatly influence by cultural management practices and management of insect pests and diseases applied during the growing period. The recommended storage system is diffused light storage (DLS). This involves placing thinly 2 - 3 seed tubers thick in trays, shelves, or racks in a building or store structure where light can diffuse in through transparent plastic sheets. The DLS methods can be a substitute for low temperature storage to some extent that will prevent excessive rotting and facilitate easy removal of undesirable tubers. Tubers stored for 6 - 8 months using DLS—day light storage method will produce short and sturdy sprouts, which is ideal for white potato production.

COST AND RETURN ANALYSIS

ITEMS	QTY.	UNIT	RATE	AMT. Php
A. LABOR				
Plowing	56	MD	350.00	19,600.00
Furrowing	54	MD	350.00	15,400.00

ITEMS	QTY.	UNIT	RATE	AMT. Php
A. LABOR				
Compost Application	20	MD	350.00	7,000.00
Planting	20	MD	350.00	7,000.00
Weeding	10	MD	350.00	3,500.00
Hilling-up	44	MD	350.00	15,400.00
Spraying	12	MD	350.00	4,200.00
Harvesting & Hauling	20	MD	350.00	7,000.00
B. SUPPLIES AND MATERIALS				
Seeds	2,500	kg	30.00	75,000.00
Compost	100	bags	400.00	40,000.00
Fermented Fruit Juice	4	L	300.00	1,200.00
Fermented Plant Juice	4	L	300.00	1,200.00
Biopesticides	5	L	2,350.00	11,750.00
BioFungicides	5	L	450.00	2,250.00
Yellow Sticky trap	100	pcs	28.00	2,800.00

Total Production Cost	234,575.00
Gross Income Seed Yield-15,000 kg @ Php30.00/kg May be used 2 x	450,000.00
Net Income	215,425.00
ROI%	92%

QR code

Technology developed by: BPI - Baguio, National Crop Research, Development and Production Support Center (BPI-BNCRDPSC)

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ORGANIC POTATO  
SEED PRODUCTION

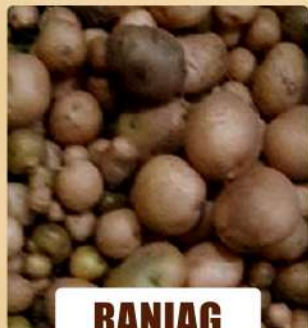


## ECOLOGICAL REQUIREMENT

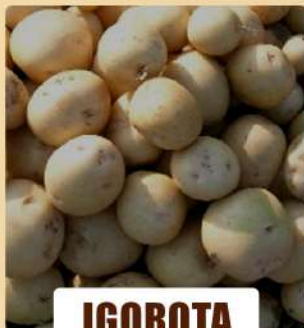
It is recommended to establish your seed farm in upland plain or slightly rolling areas with good drainage. Water sources and roads should be easily accessible. A temperature between 17°C to 22°C is necessary for optimum growth. Potato grows well on sandy to clay loam soils. The soil must have pH ranging from 5.6 to 6.5 and with organic matter at least 5%. Ensure that the site is free from contamination of synthetic chemicals by choosing land that has not been previously applied with artificial fertilizers or pesticides. An area that has not been cultivated before can also be used (ie. virgin land).



GRANOLA



RANIAG



IGOROTA

## RECOMMENDED VARIETIES

## CULTURAL MANAGEMENT

**Land preparation** - Preparing the land for planting is done manually using grab hoe in sloping terrain. Field with dense weeds and volunteer plants are removed before or during land preparation.

**Fertilization** - The general fertilizer recommendation for potato production is 140-140-140 NPK.

The amount of nutrient applied is based on fertility and organic matter content analysis of the soil. Apply 10 mt/ha organic fertilizer before setting the seeds to contribute to NPK and micronutrients. Spray fermented plant juice (FPJ) at the rate of 32 tbsp. / 16 L of water during vegetative stage and fermented fruit juice (FFJ) for tuberization stage at the rate of 32 tbsp. for 16 L of water.

**Planting** - The About 2.5MT /ha whole seed tubers with a diameter of 30 - 50 mm is recommended for seed production.

In the double row method, make raise-beds 1 to 1.2 m wide with 25 to 30cm high with 10 to 20 cm. space in between to ensure good drainage. A shallow hole about 10-15 cm deep and 25 - 30cm apart is made on top of the seedbed for setting the seed pieces.

In the single row method, furrows are made with a distance 75 cm between rows and 25 cm between hills. Single row method of planting is more preferred and advantageous because diseased plants and tubers can be easily detected and rogued during visual field inspection.

Also the possibility of disease contamination from plant to plant and tuber to tuber is reduced.

**Roguing** is done as early as possible to remove varietal mixture, weak plants, disease or undesirable plants and continued until canopy-close. This practice is the best insurance for the production of healthy and high quality seeds.

## PEST AND THEIR CONTROL



### Aphids

**Control:** fertilizer The growing season should coincide with the period of relatively low-aphid population. Aphid transmitted virus infection is least likely to occur during the period. Spray mineral oil at the rate of 50 ml per 16 L of water at 7 days interval. Spray soap (perla) at 25 grms per 16 L of water at 7 days interval. Spray hot pepper extract (100 g macerated hot pepper / 16 L water).



**Control:** Thrips population tends to build up more rapidly in hot dry weather. To control, spray hot pepper extract (100 g macerated hot pepper/16 L water) or Use of yellow sticky trap (YST).

### Potato Cyst Nematode

**Control:** Quarantine should be instituted to prevent the spread of the pest to areas free from infestation. Infested seeds or seedlings should not be planted in areas intended for seed potato production.



### Potato tuber Moth

**Control:** Soak potato seed tubers for 20 minutes at the rate of 50 gms perla soap mixed with 200gms macerated hot pepper / 16 L of water.

## DISEASES AND THEIR CONTROL



### Late blight

**Control:** is done as early as possible to remove varietal mixture, weak plants, disease or undesirable plants and continued until canopy - close. This practice is the best insurance for the production of healthy and high quality seeds.

### Bacterial Wilt

**Control:** Avoid using compost or manure that is contaminated with *Ralstonia solanacearum* the causal organism of bacterial wilt. Use pathogen free seed and planting materials from certified sources. Planting in pathogen free soil, burying plant debris, and removing volunteer plants and alternate weed hosts will greatly reduce if not eliminate the threat of bacterial wilt. Furthermore, practice crop rotation to reduce infection by 50% by planting non-host plants like corn, cabbage, carrots. If the crop will be grown in greenhouse it is wise to sterilize the soil – medium to eliminate the cause of infection.



**Trichoderma** - can reduce bacterial infection. Apply 1 tablespoon of Trichoderma grown in rice hull in planting holes two weeks before planting to enable the microorganisms to feed on nutrients for fast production of mycelia.

### Blackleg

**Control:** The causal organism of blackleg is *Pectobacterium atrosepticum* (previously known as *Erwinia carotovora* pv. *Atroceptica*).

It is most effectively controlled by planting disease free tuber seeds. Rotating cereals, legumes and other non - host crops will also reduce infection.