BEST FARMER PRACTICES

IRISH POTATOES

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9 IRISH POTATOES

ECOLOGICAL REQUIREMENTS

Potatoes require well drained medium loams and well distributed rainfall

1. LAND PREPARATION

It involves bush clearing, removal of tree stamps, termite mounds and ploughing.

Potatoes respond well to high soil fertility·and hence manure or compost is needed if the land has previously been cropped.

It should begin at least ***3 weeks before planting*** to allow breakdown of organic matter.

Compost or manure should be applied at a rate of ***2 to 4 tons per acre*** during the first cultivation to allow for adequate decomposition.

2. PLANTING

Planting should be done at the onset of rains to enable effective growth with the seeding rate being ***800 - 1000kg per acre***

Planting should be done at a ***depth of 10cm*** following a spacing of 20-30cm within rows and 60-90cm between rows.

DAP can be applied at a rate of ***200kg per acre***

If the soils are acidic, ***TSP*** or ***DSP*** should be applied instead at a rate of ***80kg per acre.***

3. TOP DRESSING

CAN fertiliser can be used at a rate of ***120kg per acre.***

Excessive use of nitrogen containing fertilisers should be avoided since it will favour vegetation growth and hinder tuber development.

4. WATER MANAGEMENT

Potatoes require adequate rainfall to grow well. That is why it is key to ensure that they are planted in the rainy season.

Irrigation can also be done in case the rains are scanty.

5. RIDGING/ EARTHING UP

Ridge or earth up the rows as the potatoes grow.

*First when crops grow to **15-20cm** tall with weeding **every after 2 weeks thrice**.*

The final ridging is done before the plant starts to bloom.

Do not earth up when the soil is wet to avoid compaction.

A well built hill helps to control weeds, prevents greening of tubers and reduces attack by the potato tuber moth.

PEST

POTATO CYST NEMATODE

They live on the roots of plants of the Solanaceae family, such as potatoes and tomatoes

They cause growth retardation and, at very high population densities, damage to the roots and early senescence of plants.

MANAGEMENT

- Practice crop rotation
- Thoroughly clean all equipment before being used in the garden
- Regularly examine your crops for patches of poor or yellow potato plants
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PEST

POTATO TUBER MOTH

The moth is small, brownish grey in color with narrow fringed wings:

Caterpillars burrow in the tubers making long irregular tunnels filled with excreta exposing tubers to secondary bacterial and fungal infection

These tunnels make the potatoes unfit for human consumption

The pest is transferred with the harvested tubers to the potato store, where it can reproduce and infest other tubers

MANAGEMENT

- Plant as deeply as possible (10cm deep) and ridge at least 3 times during the growing seasonv
- Use healthy & clean seed, since infested seed tubers are the main cause of re-infestation in the field
- Ensure compact hilling as it prevents the moths from reaching the tubers to lay eggs
- Store all harvested tubers before dusk to avoid moths laying eggs on them
- Don't leave harvested tubers in the field overnight during dry season
- Insecticides like dudu ethoate can be used

DISEASE
BACTERIAL WILT

It is soil borne and the most serious disease which can destroy an entire field

The bacteria survives in the soil for a long time and enters into the host plant through wounds on the roots and the base of stems

It is spread by infected tubers, crop residues, contaminated surface water, contaminated soils, and tools

Symptoms include;

Wilting even when there is adequate moisture in the soil.
The Wilting is rapid and wipe out the entire fields in few days
Slimy continuous white discharge is released from the eyes of the affected tubers

MANAGEMENT

Practice Crop Rotation
Destruction of infected plant debris by burning
Avoid contaminating the field with soil from an affected field
Select only certified, disease-free seed potatoes

DISEASE
LATE BLIGHT

Symptoms include;

Water soaked spots on leaves which enlarge and turn brown
Below the leaf, the fungus produces white mouldy growth seen clearly at the edge of the spot
The affected leaves wither, yet frequently remain attached to the stem

MANAGEMENT

Plant resistant varieties
Practice Crop Rotation with non-solanaceous crops
Practice good field hygiene by rouging
Select only certified, disease-free seed potatoes
Spray with appropriate fungicides both protective & curative like ***fangocil***

DISEASE

POTATO LEAF ROLL VIRUS

It occurs in all potato growing areas and is transmitted by aphids.
The virus is also spread through infected tubers and diseased volunteer plants.

MANAGEMENT

- Use clean tuber that are virus free
- Control aphids by spraying with azadirachtin containing pesticides like ***nimbecidine***

DISEASE

OMMON SCAB

It affects the potato skin with pimple-like lesions.
It may not quantitatively affect yield but the quality of tubers which makes them less attractive in the market and their storability

MANAGEMENT

- Avoid planting scab-infected seed tubers
- Increase the rotation period (2 years or more) for potato planting
- High moisture levels at tuber formation and bulking reduces scab incidence
- Do not reduce the acidity of the soil too much by liming as scab is reduced in acidic soils.

- Harvesting

The Maturity Period ranges ***between 3 – 4 months after planting*** depending on the variety

Tubers harvested while still immature tend to have low dry matter content and to suffer more skin damage, resulting in easier infection by fungal and bacterial pathogens.

However, ***seed potatoes are often harvested early***, to avoid virus infection that may occur during the latter part of the growing season

Tubers should be completely covered with soil to reduce greening and entry of potato tuber moth

Cutting vegetative material ***2 weeks before harvesting*** hardens the skin of tubers (dehaulming).

Hardening of skin tuber reduces damage of tubers during harvesting & post-harvest handling

Dug potato tubers should be stored clean, dry with mature skins ***free from*** wounds, insect, pests and diseases.

- Post harvest handling

Diseased and cut tubers are sorted out to avoid losses in storage due to rotting

The stores should be kept in a dark store to prevent greening and they should be cool and well ventilated.

INFO AND CREDITS

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