

Introduction

Pumpkin (*Cucurbita maxima*) belongs to the Cucurbitaceae family, which includes cucumber and melon. Pumpkins can be grown throughout the year. They are also rich sources of vitamin A and minerals. Pumpkin has been targeted as a crop for expansion under the Agricultural Diversification Project (ADP).

Varieties

There are a number of pumpkin varieties available locally including butternut squash. Pumpkins are distinguished from each other by skin colour and texture. Mature fruits can weigh from 5 to 20 kg each.

Land Preparation and Planting

Pumpkins grow well on soil that is high in organic matter, has good moisture retention capability and is easily drained. Soil pH ranges between 5.5-6.8 are ideal for cultivation.

Start land preparation by digging a half metre pit, about 30cm deep. Fill the pit with manure. Make mounds (creating raised areas) preferably for the sowing of seed. These should be about 15cm high. Plant seeds three centimeters (one inch) deep (four or five seeds per mound). Allow two metres (six feet) between hills, spaced in rows three metres (ten feet) to four metres (fifteen feet) apart. When the young plants are established, thin each mound to two or three plants.

Fertilising

A soil test should be performed to provide precise recommendations for fertilizer applications.

The following is an approximate guide:

- If the pH of the soil is less than 5.0 then limestone will need to be incorporated into the soil at least two weeks before sowing.
- A complete fertilizer 12:12:17:2 or 15:15:15 should be used. This should be applied at a rate of 100 gm per mound about one week after germination. It may also be necessary to apply 200g of urea as well to each mound in addition to the 100 g of 12:12:17:2 or 15:15:15.

Further applications of 15:15:15 should be made at the 3rd, 6th and 8th week at the rate of 100g per mound.

PEST MANAGEMENT

Pests of pumpkin include crickets, cutworms, aphids, whiteflies, mites, thrips, fruit sucking bugs, striped cucurbit beetle and pickleworm.

Crickets

Crickets cut the seedlings. These can be controlled by watering the soil with Basudin, or Vydate L at a rate of 10mls to 4500mls of water.



Cut worms

These are surface feeders that cut seedlings at or slightly above the soil surface. Control is similar to that as crickets.



Aphids

These insects attack plants at all stages of growth and are usually found in dense clusters on the under surface of the young leaves and young tender stems. Control using insecticide such as Fastac, Decis or karate at 6mls to 4500mls of water.



White Flies

These insects feed by sucking plant sap. Soap based products should be applied in the morning or late in the evening. Other chemicals that can be used include Admire, Pegasus or Basudin/Vydate L at 10mls to 4500mls of water.



Mites

These tiny insects appear as dust and they suck plant sap. For severe infestations use Abamectin, Newmectin or Vertimec at 5mls to 4500mls of water can be used.



Thrips

These insects suck sap from leaves causing them to lose their colour. Insecticides such as Regent, Admire, Abamectin and Vydate L can be used at 5mls to 4500mls of water.



Fruit Sucking Bugs

These bugs puncture and suck sap from leaves, flowers and fruits. Insecticides such as Fastac, Decis, Karate or Ambush can be used at 6mls to 4500mls of water for control.



Striped cucurbit beetle

These beetles feed on plants and can be controlled by using insecticide such as Malathion, Sevin, Fastac, Decis and karate at 6ml to 4500mls of water.



Pickle worm

Pickleworm moths are nocturnal fliers and feeds on leaves and flowers and Tunnels into developing fruits. Malathion, Sevin, Fastac, Decis and karate at 6ml to 4500mls of water can be used for control.



DISEASE MANAGEMENT

Sclerotinia Stem Rot

This fungus produces structures called sclerotia which affects the plant. The use of fungicides may be effective if applied to young plants.



Phytophthora Blight

Plants infected with this fungus express several symptoms depending on the part affected and the stage of disease development.



The following are some common symptom types:

- Damping off of seedlings;
- Leaf spots that are dark brown and large and in some cases with a yellow halo;
- Water soaked, oily, sticky decay and collapse of stem and petiole;
- Root rot and crown rot;
- White downy fungal growth on fruit that will expand and cover entire surface;
- Stem end infection can be seen as decay with dark exudates around the affected area;
- Affected fruits are soft, and watery when opened.

Fields should be routinely scouted and plants should be treated with Ridomil and Aliette at the first sign of the disease.

Powdery Mildew

This can result in serious losses of pumpkin. The white, powdery mold first appears on lower stems and petioles. As the disease continues to develop, the white moldy spots occur on the underside of leaves. Systemic fungicides can be effective if applied at appropriate times during the season, even if symptoms are not obvious.



Downy Mildew

This is a fungal disease often identified on pumpkin crops. Yield loss associated with downy mildew is most likely related to soft rots after plant canopies collapse and sunburn occurs on the fruit. Broad spectrum protectant fungicides such as Mancozeb are effective in protecting against downy mildew infection.



Black Rot

This is caused by a fungus. Yield loss can be significant. Rotate protectant fungicides at 10 to 14 day intervals. Fungicide recommended for use on pumpkins is Mancozeb.



Fusarium Crown and Fruit Rots

Some crown rot fungi also are responsible for a characteristic fruit rot that occurs on pumpkins. Initial symptoms on pumpkins include a general yellowing of the entire plant; after 2-4 weeks, the entire plant will wilt, collapse and decay. Rotations of con-cucurbit with other crops will help reduce Fusarium populations in soil.



Fruit Rot



Crown Rot

Bacterial Wilt

is one of the most important diseases of pumpkins. Wilting of one or a few leaves is the first symptom of this disease. In the early stages of the disease, plant with wilt symptoms may recover during the night and wilt again in the heat of the day. Insecticides aimed at reducing cucumber beetle populations are recommended.



Viral Diseases

Viral diseases of pumpkins such as the Cucumber Mosaic Virus (CMV), Squash Mosaic Virus (SQMV), and Watermelon Mosaic Virus (WMV), are transmitted by sucking insects such as aphids, thrips, mites, etc. WMV is the most common virus disease of pumpkins. Leaves of virus infected plants often appear molted and distorted.



Harvesting and Storage

Pumpkins begin bearing 12-14 weeks (80-140 days) after planting. Fruits are ready for harvesting when the tendrils start turning brown and the skin becomes hard. Pumpkins can be stored for about 60-80 days if harvested properly. Pumpkins should be picked only when the fruit surface is completely dry. The fruit should be carefully clipped off the vine, leaving about a 2.5cm (1 inch) stem attached to the fruit.



Mature Fruit

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