

Bitter Gourd

Diseases

Powdery Mildew (*Sphaerotheca fuliginea*):

This disease is favored by high humidity and tends to occur on older leaves first. Symptoms first appear as white powdery residue primarily on the upper leaf surface. On the lower surface of the leaves circular patches or spots appear. In severe cases, these spread, coalesce and cover both the surfaces of the leaves and spread also to the petioles, stem, etc. Severely attacked leaves become brown and shrivelled and defoliation may occur. Fruits of the affected plants do not develop fully and remain small.

Control: Carbendazim (1ml/litre of water) or Karathane (0.5 ml/litre of water) is sprayed immediately after the appearance of the disease. 2-3 sprays are taken at an interval of 15 days.

Fusarium Wilt (*Fusarium oxysporum* f. sp. *niveum*):

Initially the plants show temporary wilting symptoms, which becomes permanent and progressive, affecting more vines. The leaves of the affected plants show yellowing, loose turgidity and show drooping symptoms. Eventually, the plant dies. The roots are not affected. In older plants, leaves wilt suddenly and vascular bundles in the collar region become yellow or brown.

Control: Three sprays of Karathane (6 g in 10 litres of water) or Bavistin (1 g /litre of water) immediately on appearance of initial symptoms at 5-6 days interval controls the disease. Leaves of fully grown vines should be thoroughly drenched during spraying.

Downey Mildew (*Pseudoperonospora cubensis*):

It is prevalent in areas of high humidity, especially when summer rains occur regularly. The disease is first seen as yellow angular spots on the upper surface of the leaves. Under conditions of high humidity, whitish powdery growth appears on the lower surface of the leaves. The disease spreads rapidly killing the plant quickly through rapid defoliation.

Control: Excellent control of this disease can be achieved with Ridomil (1.5 g/litre of water) which must always be used simultaneously with a protectant fungicide such as Mancozeb (0.2%) to prevent the development of resistant strains.

Bitter Gourd Mosaic :

This virus disease is mostly confined to the leaves with symptoms appearing on the leaves in the secondary branches produced at the apical end of the plant. Small irregular yellowish patches are seen on the leaves. Some leaves show vein clearing in one or two lobes of the leaf and severely infected plants show reduction in leaf size and elongation and/or suppression of one or two lobes. Young developing leaves are completely distorted and malformed with considerable reduction in their size. Some of the leaves show marked reduction in the development of lamina resulting in a shoe-string effect. The virus is transmitted by five species of aphids.

Control: Spraying the crop just after germination with Monocrotophos (0.05%) or Phosphamidon (0.05%) at 10-day intervals prevents aphid vectors.

Bitter gourd Witches' Broom :

Plants infected in the early stages do not bear any fruit and the loss is 100%. Characteristic symptoms of this disease are malformation and proliferation of axillary buds. Diseased plants show many abnormally little leaves, which fail to attain full size. The diseased plants bear many flowers and blossom earlier than healthy plants. Flowers on infected plants show characteristic green, phyllody symptoms. Fruit formation is noticed from the flowers partially infected with the disease. Fruits from these flowers are very small, cylindrical and deformed. The outer surface of the fruits is smooth and fruits are completely seedless. Plants showing severe witches' broom do not bear any fruit.

Control: Application of Carbofuran (1.5 kg a.i./ha) at the time of sowing seeds followed by 5-6 foliar sprays of either Phosphamidon (0.05%) or Monocrotophos (0.05%) or Oxydematon Methyl (0.05%) at 10 days interval, to control the vector population. Spraying of Oxytetracycline hydrochloride solution (500 ppm) at weekly intervals suppress the disease symptoms