1. Leaf Miners Flies: Irregular serpentine gray lines on the leaves deliminated by leaf veins.

Biological control: Spray neem oil extracts. Parasitic wasps that kill leaf miner are commercially available.

Chemical control: abamectin, bifenthrin, carbayl, permethrin, methoxyfenozidean.

1. Tomato Late Blight: Brown spots grow from leaf margin, white covering on the underside of leaves, gray or brown wrinkled stains on fruits, hardened fruit flesh and fruit decay.

Biological control: Remove and destroy plant around infected spot. Do not compost infected part.

Chemical control: Fungicide sprays based on mandopropamid, chlorothelonil, fluazinum, triphenyltin, mancozeb.

1. Nitrogen deficiency in tomato: Older mature leaf turn pale green, with red discoloration on petioles and veins. Later they become uniformly yellow first and later yellowish white. Young leaves remain pale green and grow shorter than usual. Plant have spindly aspect but their height is normal. Premature death and shedding may happen.

Biological control: High level of organic matter in soil like manure, compost and peat.

Chemical control: Use of products having ammonium, urea and nitrate

1. Blossom end rot: Brown or grey stains on bottom of green fruit. Internal black rot might develop in fruit. Might not show external symptoms.

Biological control: Calcium rich substances such as algal limestone, balsalt flour, burnt lime, dolomite, gypsum and slag lime addition to soil.

Chemical control: Foliar spray of calcium chloride as emergency measure in small amount.

1. Thrips: Smaller silver patch appear on the upper side of leaf blade. Yellow, black or fascinated insect of 1-2mm in length and black dung spots on underside of the leaves. Deformation of leaves, flowers and fruits.

Biological control: Neem oil, spinosad, garlic extracts, UV mulch.

Chemical control: Azadirachtin, insecticidal soaps, narrow range oils, pyrehtrins combined with piperonylbutoxide.

1. Tomato fruit borer: Feeding damage on flowers and fruits. Holes in young fruits, Growth of bacteria and fungi.

Biological control: Tricogramma, Microplitis, heteropelma and netelia wasps parasitize the larvae. Bio insecticides based on spinosad, nucleopolyhederovirus, neem oil and bacillus thiringiensis.

Chemical control: chlorantraniliprole, flubendiamide and indoxacarb insecticides.

1. Early blight on tomato: Dark spots on leaves, dark concentric circles on stem and fruit.

Biological control: Spray algal limestone or rock flour.

Chemical control: Fungicides containing copper, mancozeb, chlorothalonil, azoxystrobin, pyraclostrobin, trifloxystrobin, fenamidone and famoxidone.

1. Aphid: damages leaves and stunted plant growth. Aphids can transmit virus from plant to plant in persistent way.

Biological control: Insecticidal soaps and sparying of water

Chemical control: Insecticides containing cypermethrin, imidacloprid, chlorpyrifos, carbosulphane spray.

1. Tomato yellow leaf curl virus: Thicker and wrinkled leaves with interveinal chlorosis clearly visible on the leaf blade. Number of fruits reduced.

Chemical control: Insecticides like organoposphates, carbamates, pyrethroids and imidacloprid.

1. Bacterial Spot: Small yellow-green lesions appear on young leaves. Leaves are deformed.

Biological control: Submerge seeds for one minute in 1.3% sodium hypochlorite or n hot water for 25 minutes.

Chemical control: Treatment with copper plus mancozeb.

1. Root-knot nematode: Stunted growth and yellowish leaves. Root system develop the characteristic of knot and gals.

Biological control: Poultry manure or organic waste. Biopesticides like pseudomonasflourescens, pesteria penetrans.

Chemica control: Nematicide containing arbofuran, oxamyl and fenamiphos can be applied to soil.

1. Potassium deficiency in tomato: Leaf tip burn, white spots.

Biological control: Animal manure or plant mulch or wood ash.

Chemical control: Potassium chloride, potassium nitrate, potassium sulphate and monopotassium phosphate.

1. Powdery Mildew: Floury covering on the leaves which can be wiped off.

Biological control: Milk-water solution, garlic or sodium bicarbonate solutions.

Chemical control: Fungicides based on wettable sulphur carbendazim, triflumizole, myclobutanil or dinocap.

1. Tomato Mossaic virus: Leaves get distorted, green yellow mottling on leaves, plants are stunted, brown spots on fruits.

Biological control: Dry heating seeds at 70 degrres for 4 days. Soaking seeds for 15 minutes in 100g/l trisodium phosphate, rinsed thoroughly with water and dried.

1. Bacterial Canker of Tomato: Interveinal chlorosis, curling and wilting of older, leaves turn brown, rotten spots.

Biological control: soak the leaves in 8% acetic acid or 5% hydrochloric acid.

Chemical control: During frequent rains use sprays with copper based compounds.

1. Sclerotium Rot: Fungus in the form of a white, fluffy at with roundish, tan to brown structure on stem.

Biological control: Antagonistic fungi,Trichoderma herzianum, trichoderma viride, streptoyces philanthisoe, gliaocladium and some species of penicilium.

Chemical control: Multipurpose soil fumigants, metasodium, methyl bromide, chloropicrin, formalin, chlorobromopropiene.

1. Tomato spotted wilt virus: Dark brown spots on leaves, necrosis and stunted growth of tips, light green rings on fruits, deformation of fruits.

Biolgical control: Neem oil, spinosad, garlic extracts.

Chemical control: Azadiracthin, insecticidal soaps, narrow range oils, pyrethrins.

1. Calcium deficiency in tomato: Clorosis and necrosis around base of leaves, stunted growth growth, end parts of fruit get dark brown, sunken and leathery.

Biological control: Crushed eggshells, compost, manure.

Chemical control: Lime, gypsum, Dolomitic or high calcium limestone.

1. Magnesium deficiency in tomato: Mottled chlorotic areas on leaves, later yellowing engulfs the leaves.

Biological control: Manure, organic mulches or compost.

Chemical control: Foliar fertilizers containing magnesium components, magnesium oxide, magnesium sulphate.

1. Iron deficiency in tomato: Intense chlorosis at early stages, at later stages leaves take a bleached aspect.

Biological control: Organic matter in animal manure, peat, compost.

Chemical control: Iron sulphate, iron chelates.

1. Phosphorous deficiency in tomato: Plants are dwarfed or stunted, stem petiole and leaves show dark green to purple discolouration.

Biological control: Farmyard manure, compost, mulch.

Chemical control: Phosphorous is applied to soil in combination with nitrogen and potassium.

1. Bacterial speck of tomato: Dark brown to black spots on leaf and stem. Raised black specks and blemishes.

Biological control: Soaking seeds in 20% bleach solution for 30 minutes. At the time of harvesting allow seeds to ferment in tomato pulp for one week.

Chemical control: Copper containing bactericides with mancozeb.

1. Leaf mould of tomato: Pale green or yellowish diffuse spots on leaves, leaf blade becomes chlorotic, leaves turn try and curl.

Biological control: Apple cider vinegar, garlic and milk spray.

Chemical control: Chlorothalonil,maneb, mancozeb and copper formulations.

1. Abiotic sunburn: Caused by direct sunlight or excessive temperature. Wilting and chlorosis of leave, defoliation.

Biological control: White clay or talc formulation spray, products based on calcium carbonate and crystalline limestone, carnauba wax.

Chemical control: Abscisic acid, anti-transpirant products, poly-1-P menthene.

1. Specterio leaf spot: Small grey circular spots with dark brown margin on leaves. Leaf urn yellowish, wither and fall off.

Biological control: Copper based fungicides such as bordeux, copper hydroxide, copper sulphate, copper oxychloride sulphate.

Chemical control: Fungicides containing maneb, mancozeb, chlrothalonil and benomyl.