

Environmentally friendly pest management options



Use of wood ash



Commercial neem extract



Traps for monitoring or controlling pests



Insect-proof netting

Traditional

Aphids and flea beetles can be treated by applying wood ash evenly on infested parts of the plant. Also, weed the fields around raised beds to eliminate flea beetle shelters and breeding sites; adding a row cover will help keep beetles away, as will thick mulch that interferes with larval feeding activity. Plants that repel flea beetles, e.g., onion and garlic, and those that attract flea beetles, e.g., marigolds can be planted to help keep the pest away from spider plant crops.

Bio-based

Neem oil has a broad spectrum of action and can reduce caterpillars and cutworms, as well as aphids and all flea beetle life stages. Selective fungal and nematode pathogens sold commercially can also be used to manage aphids and flea beetle larvae, respectively.

Traps

Sticky cards are glue-based traps, often yellow in color to attract bug pests, used to monitor and trap a wide range of insect pests that move about easily in a field. Place sticky cards every 15 to 30 feet throughout raised beds to capture and reduce the number of adult flea beetles.

Insect-proof netting

Insect-proof netting creates a barrier that prevent insects from gaining access to crops, often grown inside high tunnels or screen houses. Netting barriers over seedlings and transplants can be particularly effective against flea beetles.

Environmentally risky pest management options



Synthetic pesticides used in pest management

Synthetic pesticides

Aphids are easily managed using insecticides like acetamiprid, pirimicarb and cyfluthrin, while flea beetles can be controlled early in the season using permethrin, lambda cyhalothrin and cyfluthrin, but are generally unnecessary on mature plants. Follow the pesticide label instructions to avoid pesticide over dosage.

For more information on how to manage pests in spider plant crops contact us at icipe:

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Spider plant pest management



Spider plant

Spider plant is a widely distributed annual that is native to Africa, and now found throughout the tropics. It grows in well-irrigated sandy loam soil exposed to sunlight. Tender leaves and shoots are consumed as a vegetable for their high vitamin and mineral content and used as medicinal herbs for their antioxidative and anti-inflammatory properties.



Spider plant crop



Bird pests damages

Common pests and their natural enemies

Spider plant crops generally have fewer pests and diseases than many leafy vegetables. The most common and persistent pests are aphids and flea beetles which can be a problem on seedlings and during the vegetative plant growth stage. Bagrada bugs can also reach outbreak levels on seedlings. Flea beetles, and to a less extent, caterpillars, can reach high densities during the vegetative stage of growth, which often lasts only a few weeks after the seedling stage. Caterpillars and wild birds cause extensive damage by feeding on seed pods. Continuous cropping of spider plants can lead to damaging infestations of root knot nematodes. Natural enemies include insect predators and parasitoids, fungal and nematode pathogens, and vertebrate predators such as birds and toads.



Flea beetle pests

Flea beetles

Flea beetles are small shiny black beetles, sometimes with brown markings, which conspicuously jump when disturbed. They feed on the under surface of leaves leaving symmetrical shot holes in the foliage that can cause serious damage when beetle densities are high. Natural enemies of flea beetles include ground beetle predators, braconid wasps and tachinid fly parasitoids, fungal pathogens, and vertebrates such as toads and birds.



Aphid pests

Aphids

Spider plant crops are attacked by both green and black aphids often found on many leafy vegetables, but also other aphids that are less common. Adults and nymphs pierce plant tissue to feed on plant sap causing stunted growth and wrinkling of leaves and growing tips that can lead to total crop failure. Aphids produce honeydew that attracts black ants to a favorite food in return for defense against natural enemies.

Best practices for avoiding pests

Pest and natural enemies monitoring

Monitor aphid populations by examining the buds and undersides of leaves of 10 randomly selected plants and counting the number of aphids present. Black ants on amaranth usually indicate the presence of aphids. Consider treatment options when aphid counts increase 10-fold between consecutive scouting observations.

Monitor flea beetles by inspecting the same randomly selecting plants used to monitor aphids and counting the number of shot holes found on a leaflet. Consider treatment options when shot hole counts double between consecutive scouting observations, or a quarter of the leaf surface is damaged.



Yellow sticky trap for monitoring pests



Ladybird beetle larva predator

Ladybird adult

Aphids attract predators such as ladybird beetles, predatory bugs, lacewings and hoverflies. Other common natural enemies include parasitic wasps and entomopathogenic fungi.



Ladybird adult