

## INSECTS AND PESTS OF AFRICAN VIOLETS

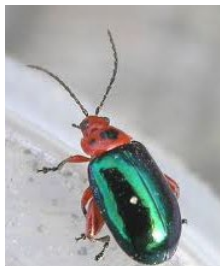
- I. **Insect and mite pests.** Many different pests attack African violets. Some feed on the roots, some on the foliage, and others on the blooms.
  - II. **Nature of Damage.** The pests may be divided into three groups according to the damage they cause: (1) **Chewing pests**, (2) **Sucking pests**, and (3) **Nuisance pests**.
- A. **Chewing Pests.** Damage usually occurs rapidly and is evident immediately. These pests should be eliminated as soon as they are detected. Symptoms include:
1. Wilting of plant (root or crown damage)
  2. Severed leaves or flower buds
  3. Holes in leaves or flower petals
  4. Discolored areas on the surface or margins of leaves or flower petals.

### Examples:

- a. **Cockroach** - the most commonly reported chewing pest of African violets. Eat leaves and flowers.
- b. **Thrips** - Minute insects that feed on pollen and tender plant tissue. Thrips enter your home through window or door screens, on clothing or in already infested plants and cut flowers. They cause deformed, undersized or discolored blooms and brown edges on flower petals. Also, the yellow pollen is scattered on the flower petals.
- c. **Foliage Feeding Larvae - Caterpillars, loopers (like inchworms) and armyworms.** Most of the time, these are accidental pests that have found their way into your home - brought in on plants that have been left outside.
- d. **Foliage Feeding Beetles** - These are not common pests of African violets but occasionally they find their way into an African violet collection. They move more quickly than the larvae and can cause severe damage in a short time.
- e. **Snails and Slugs** - Usually found in greenhouses. They feed on very tender tissue and occasionally damage rooting leaves and small seedlings. They generally feed at night and hide under pots, flats, etc., during the day. Both leave a slime trail behind them.



Chewed leaves



Beetle



Garden Snail

Slug

- B. **Sucking Pests.** Sucking pests insert their mouthparts into plant tissue and suck out the juices. Some inject toxic compounds into the plant and some are capable of transmitting certain plant diseases. The symptoms often go unnoticed for a period of time. This allows the

pests to become established and increase in numbers, resulting in considerable plant damage. Symptoms are:

- D. Wilted appearance
- E. Presence of honeydew
- F. Curling or stunting of leaves
- G. Discoloration (yellowing) of leaves
- H. Necrotic (dead tissue) spots in leaves

**Examples:**

a. **Cyclamen Mite** - One of the most damaging to African violets. They are very tiny - about 1/100-inch long - and not visible without magnification. Adults live for about a month and a female lays about 100 eggs. Damage includes leaf curling and a fuzzy appearance in the center of the plant.

b. **Broad Mite** - They resemble Cyclamen Mites but are not usually found in African violet collections. Unlike Cyclamen Mites, they don't attack the center of the plant but prefer the older, bottom leaves. They feed on both the upper and lower surface of the leaves. Damaged leaves turn yellowish and the edges may curl under.

c. **Spider Mite** - They are small and red. They can barely be seen by the naked eye. They seldom attack violets but can cause severe damage. Symptoms are bleached out or yellowish spots on leaves.

d. **Aphids** - Small, soft-bodied insects, some with wings. They may be yellow, green or black. They suck juice from leaves and stems. They secrete honeydew, sometimes resulting in the sticky substance covering the plant. They reproduce rapidly so treatment should begin immediately.

e. **Scale Insects** - They are very small, soft-bodied insects that attach themselves to plant leaves and petioles. They secrete a covering or "scale" over their body. Once attached, they never move. Like aphids, they secrete honeydew which collects on the plant.

f. **Foliar Mealybugs** - They are about 1/40-inch long, soft bodied and covered with a white waxy material. Usually found in the crown of the plant, the leaf and petioles and the flowers. They secrete honeydew and heavily infested plants become very sticky.

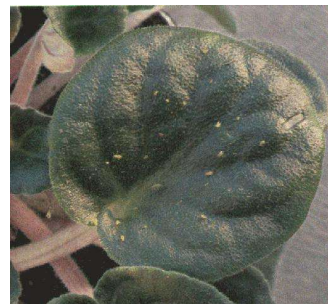
g. **Soil Mealybugs** - Like the Foliar, they are about 1/40-inch long and milk-white in color. They resemble tiny bits of perlite in the root-ball. They destroy the root hairs. Symptoms of infestation include yellowing plant leaves, wilted appearance, stunting and bloom reduction.



Gnarled crown due to Mite damage



Thrips damage to bloom



Thrips on leaves

Aphids on blossom



Aphids





Foliar Mealybugs



Cyclamen mite damage



Soil Mealy Bugs



Spider Mite Damage



Red Spider Mites



Scale Insects on Leaf



Mealybugs

C. **Nuisance Pests.** These pests cause no damage. They are considered pests simply because their presence is not desirable. Flying or hopping about, they detract from a beautiful centerpiece or a show plant. They multiply rapidly and often are found in overwhelming numbers.



Pillbugs



Earwigs



Springtails

[Text adapted for TAVS program from *Insects and Related Pests of African Violets*, by Dr. Charles L. Cole]

## Pesticides and Control

**Safer's Soap - Multi-insect control.** Killing insects, including aphids, earwigs, grasshoppers, harlequin bugs, leafhoppers, mealybug control, mites, plant bugs, psyllids, sawfly larvae, soft scales, spider mites, squash bugs, blossom thrips and whiteflies.

**Avid - for control of Thrips - A Miticide/Insecticide** - For control of leafminers and mites and suppression of aphids, whiteflies, and thrips on ornamental plants

Active Ingredients:

Abamectin (CAS No. 65195-56-4 and 65195-55-3) . . . . 2.0\*%

Other Ingredients: . . . . . 98.0%

Total: 100.0%

**Avid**, which contains **Abamectin\*** as the active ingredient, is an effective insecticide/ miticide for many different mite species and is typically recommended for control of mites both indoors and outdoors. Avid is a contact and translaminar miticide. *Translaminar* is a term that refers to insecticides/miticides that penetrate the leaf tissue and form a reservoir of active ingredient within the leaf. Avid generally provides up to 28 days of residual activity. **Suggested rate for all mite species is ½ teaspoon per gallon of water.** Avid is active on the mobile life stages of mites, with no activity on eggs. Although Avid is slow acting, treated mites are immobilized after exposure.

**\*Abamectin** is a highly toxic material, however most formulated products containing Abamectin are of low toxicity to mammals. Abamectin acts on insects by interfering with neural and neuromuscular transmission. It acts on a specific type of synapse located only within the brain and is protected by the blood-brain barrier. However, at very high doses, the mammalian blood-brain barrier can be penetrated, causing symptoms of CNS depression such as incoordination, tremors, lethargy, excitation and pupil dilation. Very high doses have caused death from respiratory failure (2). Abamectin is not readily absorbed through skin. Tests with monkeys show that less than 1% of dermally applied Abamectin was absorbed into the bloodstream through the skin (5). Abamectin does not cause allergic skin reactions (7).

**Neem - for control of Thrips - As an alternative to traditional chemical treatments, try spraying with [Neem](#) (Azadirachtin).** Has been widely used for many years in India. Neem is a substance which has natural insecticidal properties, and according to currently available research, it is biodegradable and non-toxic. When sprayed on African Violets, it discourages Thrips by making the plant unpalatable. **Though Neem does have some systemic effect in plants, spray it as you would other contact insecticides, being sure to spray in areas where Thrips are known to cluster. Remove all flowers and buds from your Violets.**

**Yellow Sticky Aphid Whitefly Traps - for Aphids, Thrips, gnats and other flying insects -**

Sticky strips are bright yellow plastic sheets coated on 2 sides with a specially formulated sticky glue. Place flat on the ground, hang them, or fasten them in place. Peel off the protective sheeting and they'll catch insects until covered with debris. Standard yellow strips attract insects such as Aphids, Fungus Gnats, Corn Rootworm, Whiteflies, Thrips, Mushroom Flies, and certain leafminers. Available in 2 sizes: 3"x5" or 6"x12".

**Information regarding Miticides with Imidacloprid - Imidacloprid** is the active ingredient in several widely used insecticides. **Merit Insecticide™ (Merit 2F -- 21.4% Imidacloprid) (Merit 75 WP - 75% Imidacloprid)** is used extensively in commercial plant nurseries as well as in lawn and landscape insect control. **Bayer Advanced™** brand insecticides are intended for the homeowner

market and **Premise™ (30.5% Imidacloprid)** insecticide is used for termites and other structural pest control. **Imidacloprid** is also the active ingredient in Advantage Flea Control and many agricultural insecticides.

**Marathon - for prevention/control of Soil Mealybugs.** When repotting African violets, place wick in pot, add a layer of perlite, then some soil, then sprinkle some Marathon over the soil before placing the plant in the pot. Marathon is for foliar and systemic insect control. Harmful if swallowed or absorbed through skin. **Active ingredient is 1% Imidacloprid.**

#### **ADDITIONAL NEEM OVERVIEW INFORMATION (JUST FOR YOUR INFO)**

**Neem Seed Meal 6-1-2** is a fertilizer - advertised to strengthen root systems and balance nutrient levels. Neem Seed Meal is produced during the extraction of oil from the seed of the Indian Neem tree. The meal is an excellent soil amendment for enriching soils and stimulating microbial activity. This meal can be applied as top dressing on many plants including vegetables, shrubs and trees. Increases growth of foliage and bud sets, strengthens roots, and improves the general appearance of fruits and vegetables. Helps balance nutrition and trace elements.

Neem is a tree. The **bark, leaves, and seeds** are used to make medicine. Less frequently, **the root, flower, and fruit** are also used. **Neem leaf** is used for leprosy, eye disorders, bloody nose, intestinal worms, stomach upset, loss of appetite, skin ulcers, diseases of the heart and blood vessels (cardiovascular disease), fever, diabetes, gum disease (gingivitis), and liver problems. The leaf is also used for birth control and to cause abortions. The **bark** is used for malaria, stomach and intestinal ulcers, skin diseases, pain, and fever. The **flower** is used for reducing bile, controlling phlegm, and treating intestinal worms. The **fruit** is used for hemorrhoids, intestinal worms, urinary tract disorders, bloody nose, phlegm, eye disorders, diabetes, wounds, and leprosy.

**Neem twigs** are used for cough, asthma, hemorrhoids, intestinal worms, low sperm levels, urinary disorders, and diabetes. People in the tropics sometimes chew neem twigs instead of using toothbrushes, but this can cause illness; neem twigs are often contaminated with fungi within 2 weeks of harvest and should be avoided. **The seed and seed oil** are used for leprosy and intestinal worms. They are also used for birth control and to cause abortions. The **stem, root bark, and fruit** are used as a tonic and astringent.

Some people apply neem directly to the skin to treat head lice, skin diseases, wounds, and skin ulcers; as a mosquito repellent; and as a skin softener. Inside the vagina, neem is used for birth control. Neem is also used as an insecticide. How does it work? Neem contains chemicals that might help reduce blood sugar levels, heal ulcers in the digestive tract, prevent conception, kill bacteria and prevent plaque formation in the mouth.