



ICYCLAMEN MITE These are tiny mites that vary in size from 0.25 to 0.5 mm (0.01-0.02"). A magnifying glass is needed to see them.

This term includes several species. They are among the pests that create the most damage to the cyclamen.

The parasites most frequently encountered on cyclamen and most dangerous are:

- ✓ *Tarsonemus pallidus* Banks (*Steneotarsonemus pallidus* Banks), synonym *Phytonemus pallidus*
- ✓ *Polyphagotarsonemus latus* or also called "broad mite", larger and more mobile

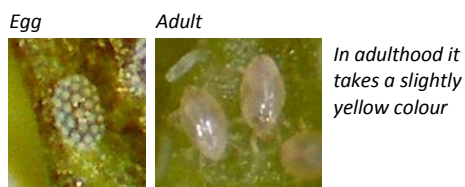
I – CYCLE AND LIVING CONDITIONS

Their life cycle is very fast: they go from larval stage to adult stage in just 10 days. Therefore there is a high number of generations per year (8 to 10). In the greenhouse several generations can overlap. An adult can live 10 to 30 days.

They fear light and love the freshness and moisture, whatever their stage of development. They are avoiding parts of the plant exposed to the sun and heat and stay in the heart of the plant near the buttons and buds. The plant transpiration is higher there which prevents them from drying out. Their skin is soft as their "skeleton" contains little chitin. They die at a relative humidity below 70%.

The only way they have to feed is to sting the most tender plant tissue and suck the contents of the superficial cells. They secrete some toxic substances that cause damage to flowers and leaves. It is the larval stage that they create the most damage

The different stages of life of Polyphagotarsonemus latus



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II – SYMPTOMS

Infestation occurs without noticeable outward manifestation, the mites are very small and still in the heart of the plant. It is only when the flowers and leaves develop that the symptoms become visible.

The leaves



Shining roughness on the tender leaves (young).

The photo shows two leaves of the same plant. At the left a healthy leaf, at the right an infested leaf.



Deformation and distortion in growing areas (buttons and buds).

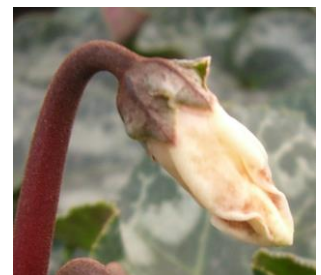


The underside of the leaves is "tanned". The edges of the leaves are folded inwardly.

The flowers



Distortion of young flowers and buds



Dark spots on petals



III – PROPAGATION

The movement of mites is very limited. On the same plant, the male carries the female and larvae to the most tender parts of the plant.

They cannot move by themselves from one plant to another. They need a means of transportation:

- ✓ other insects, primarily the whitefly and more rarely thrips and aphids, can carry mites on their legs and antennae
- ✓ wind or air currents
- ✓ humans during handling and / or cleaning



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III – PROPAGATION (continued)

Other adjacent and already infected crops can be a source of infection for the cyclamen. The most common host plants are Impatiens NG, Saintpaulia, Gerbera, Fuchsia, Dahlia, Gloxinia, Begonia elatior, Azalea, Celosia and other...

IV – PREVENTION / CONTROL

Above all it is essential to start the culture with disinfected equipment, clean and free from mites.

If possible, control the moisture level under 70% RH which is the limit of proliferation.

Rapid detection

It is also very important to train those who will be handling the plants so that they can detect any plant damage as soon as possible and act accordingly. A magnifying glass (x 10 at the minimum) is necessary to see and recognize the mites. As they do not fly, sticky traps are not useful to detect them.

Growing areas that have optimum climatic conditions for mites (the coolest and most humid) should be particularly monitored with regular control at the heart of the plants.

V – CHEMICAL TREATMENT

Chemical treatment is now effective through appropriate active ingredients.

There are two types of active ingredients:

- ✓ Translaminar insecticides: they enter the plant tissues and are poisonous to mites
- ✓ Contact products that will kill the mites by touch

Whatever the type of active ingredient, the main difficulty is to let it penetrate the heart of the plant where the mites hide and feed. Contact products must touch the mites to kill them, whereas the translaminar products will go directly to the soft tissues of the plant to "poison" the mites.

To reach the heart of the plant, Ultra Low Volume equipment is very effective. It disseminate microscopic droplets containing the active ingredients throughout the greenhouse. These droplets are almost as light as air, so they have time to penetrate the plant instead of falling rapidly.

It is very important to start treatment as from the rooting phase when the vegetation is less important and the heart of the plant more accessible.

The treatment must be repeated regularly to kill immediately any new mites, or to ensure the presence of preventive active ingredients in the new buttons and buds.

It is in the egg stage that the mite is most resistant. Therefore, active ovicide substances must always be combined with the other active ingredients, or at least be used alternatively.

| Active ingredient | Efficiency | Doses spray system | Doses Ultra Low Volume system |
|-------------------|--------------------------------|--------------------|-------------------------------|
| ABAMECTINE | Larvicide, ovicide | 50 cc/hl | 0,5 l/ha |
| BIFENAZATE | Ovicide, larvicide, adulticide | 40 cc/hl | 0,4 l/ha |
| ACRINATHRINE | Ovicide, larvicide | 80 cc/hl | 0,8 l/ha |
| MILBECTINE | Ovicide, larvicide, adulticide | 50 cc/hl | 0,5 l/ha |

WARNING: check with your local branch of Plant Protection to meet the latest updates to regulations and guidelines concerning the use of chemicals.

Biological prevention

At present, the proposed predators are:

- ✓ Phytoseiulus persimilis (Phytoseiulus System Phytoseiulus T system, Phyto-line p, Spidex, Spidex Plus)
- ✓ Amblyseius californicus (Californicus system, Ambly-line cal, Spical)

Unfortunately they are most effective against other mites such as *Tetranychus* sp and are less useful against *Tarsonemus pallidus* and *Polyphagotarsonemus latus*.

VI – MISDIAGNOSIS

Excess in conductivity / Mites



Distortions due to an excess of conductivity

An excess in conductivity in the substrate combined with a weak or poorly developed root system, can lead to deformities like those caused by mites. But in this case, the leaves do not have a shiny and rough appearance.

Thrips / Mites



Scrapes and stains caused by Thrips

The damage caused by thrips on the petals are sometimes difficult to differentiate from those created by mites. The scrapes are almost identical. Mites damage both the flowers and young leaves at the same stage of growth.

Thrips can damage the leaves of young plants or the flowers of mature plants.