

Aculeifer-System

Predator for the control of the bulb mite. Bulb mites can cause a lot of damage in the bulbgrowing industry, in particular during the multiplication of bulbs and culture. Thanks to the predatory mite *Hypoaspis aculeifer*, an effective biological control is recently available.

BULB MITES

Bulb mite (*Rhizoglyphus robini*) is a highly frequent pest in bulbous plants. It is a small and slow moving mite. It is brown-coloured growing from 0.3 to 0.6 mm in length with a spherical shape and brown-coloured legs and mouth parts. The development rate depends on the temperature. At 16°C the development from egg to egg takes +/- 40 days and only 12 days at 27°C.

The damage to the bulb can either be direct or indirect. The mite makes small holes in the bulb that can lead to deformation and decelerated growth. Fungi and bacteria can easily enter the plant through damaged plant parts.

Bulb mites prefer moist potting compost or scutes.

HYPOASPIS ACULEIFER

Hypoaspis aculeifer is a brown-coloured predatory mite growing to 1 mm in length. *Hypoaspis aculeifer* has tall legs and a strongly pilosed back. This predatory mite inhabits the top layer of the soil and feeds on harmful soil insects, such as the bulb mite.

Females lay their eggs in the soil or in other appropriate substrates. The development rate depends on the temperature and is practically identical to the growth rates of the bulb mite.

Hypoaspis aculeifer prefers moist potting compost and other moist spots. It is active at 10°C.

If there is not sufficient bulb mite available, it can nevertheless multiply on other soil insects. *Hypoaspis* can stay alive very well in the absence of food.

Predatory mites are rather insensitive to chemical products applied above ground.

APPLICATION

Hypoaspis aculeifer can be applied in two different ways:

1. **During multiplication**
2. **During cultivation in greenhouse.**

1. Multiplication

During the multiplication process, the bulb mite can multiply explosively through scutes of e.g. lily. High temperature and R.H. are favourable to the bulb mite and the predatory mite *Hypoaspis aculeifer*. 10 Predatory mites per 100 scutes are sufficient to control the bulb mite.

Important: The scutes have to undergo a hot water treatment before introducing the predatory mites. The purpose of this treatment is to reduce the density of bulb mite and earwig prior to *Hypoaspis* introduction.

2. Cultivation

Hypoaspis aculeifer is a very effective predator of bulb mite in e.g. amaryllis, lily or freesia culture. The starting material should be as clean as possible should be used from the start. The bulb mite population has to develop during the cultivation. At first a less sensible type could be used to start so that the predatory mite can develop properly. Once the predatory mite is present, it is effective in controlling the bulb mite. The recommended dose of 100-500 predatory mites per m² depends on the damage, the species and the type of soil.

ACULEIFER-SYSTEM

Biobest offers *Hypoaspis aculeifer* in 1 liter units of 10.000 or 25.000 predatory mites and in 5 liter buckets with 125.000 predatory mites. The supporting medium consists of a mixture of vermiculite and peat with flour mites as food for the predatory mites. An introduction is advisable in case of restricted damage.

A regular dispersion of the bulb mite is crucial. *Hypoaspis aculeifer* feeds on sciarid fly larvae, bulb mites, thrips pupae, root aphids, mites and other harmful soil insects.

Hypoaspis can be stored for a short period in a moist environment at 12-18°C.

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