



# BIOLOGICAL SERVICES

## Hypoaspis mix

Hypo mix is a combination of two soil dwelling mites - *Hypoaspis miles* (*Stratiolaelaps scimitus*), and *Hypoaspis aculeifer*. The predators are harmless to plants and people. It gives excellent control of fungus gnats when used preventatively, and helps to control thrips by attacking thrips pupae in the soil. For additional information on each organism, please refer to the individual organism info sheet.

### Description and biology

The main targets for Hypo mix are the eggs and larvae of fungus gnats (sciarid flies), and the pupae of western flower thrips and onion thrips. Fungus gnat larvae are generally found in the upper level of soil close to the root zone. Sciarid larvae damage plants by tunnelling into the roots and occasionally plant stems. Hypo mix can also help reduce thrips populations by feeding on pupae in the soil. This is not sufficient to control thrips on its own, but can be very important when used in conjunction with *Orius tantillus* and *Neoseiulus cucumeris* which target thrips in the plant canopy.

### Suitable crops

Suitable crops include nurseries (for propagation, bedding plants, and new pots), vegetables (capsicum, tomatoes, eggplant, cucumber), ornamentals (gerbera, orchids, begonia, chrysanthemum, rose, poinsettia, cyclamen), and herbs. It is primarily used in greenhouse production, but is also used in the field in crops such as strawberries to restore beneficial activity after soil fumigation. Hypo mix will establish in most greenhouse conditions and most growing media, including potting mixes, soil, coconut coir, rock wool and perlite. It will not tolerate flooding or water logged areas, but will not be harmed by regular watering provided the media has good air porosity. Hypo mix should be used in conjunction with *Dalotia coriaria* (rove beetles) which can tolerate saturated conditions.

### When to release

Best results are achieved when used preventatively (before pests are observed) or when pest populations are low. Where

## *Hypoaspis miles* + *Hypoaspis aculeifer*



*Hypoaspis miles* adult eating a pest mite.



Adult *Hypoaspis aculeifer*.

there is a history of thrips or fungus gnat infestations, Hypo mix should be released into each container at the time of planting and again 2 weeks later. Monitor pest levels with yellow sticky traps and release at the first sign of pests. Areas of greater infestations must be identified as soon as possible for more concentrated treatment or possible alterations to practices. If fungus gnats are already high, lower the population level with treatments of parasitic nematodes (*Steinernema feltiae*)

and Vectobac™ as well as releasing Hypo mix. Only use toxic insecticides as a last resort if pests levels are extreme, then revert back to preventative releases of beneficials after control is obtained.

## How to release

Hypo mix is packaged in a pasteurised peat and vermiculite mix and is sold by the litre. Each litre contains at least 30,000 mites of all life stages. Thoroughly mix the contents of the bag to evenly distribute the mites. Place a small amount of material into each container.

## Release rates

Each litre will treat 20-50 m<sup>2</sup> of seedlings or cuttings at propagation or 500 m<sup>2</sup> of bedding plants, or around 500 pots (150 mm) preventatively. Double release rates if fungus gnats/ thrips are already present. Repeat 2 weeks later. Each new batch of seedlings will require retreatment.

In strawberries and greenhouse crops release 25-40 litres per hectare, depending on pest levels.

## Storage

Hypo mix should be released as soon as possible on receipt. If this is not possible, Hypo mix can be stored at 8-12 °C for 1-2 days.

## Chemical use

Hypo mix is more tolerant of many pesticides than most other beneficial species provided the chemicals are not drenched through the soil media. However some, particularly pyrethroids are toxic and should be avoided. Contact us for more information on chemical compatibility.

## Ordering and accounts

Orders are sent via express courier services on Monday or Tuesday of each week, and usually arrive within a couple of days. Orders received after noon on Tuesday are sent the following Monday. Prices are on a sliding scale i.e. the more that is purchased over a monthly period, the lower the price will be per unit. Freight is charged at Express parcel cost.

Accounts are sent at the end of each month, and can be paid by EFT, BPay, cheque or postal order.