THRIP CONTROL
Orius insidiosus - Pirate Bug

Product: *Orius insidiosus* is a native species of pirate bugs. Nymphs range from 0.5mm to 2mm in length. Colour develops with age from pale yellow to brown. Adults are 2-2.5mm in length, mostly black in color with small brown markings on the wings. They are somewhat flat and armed with a beak. Under ideal conditions, each female adult will lay about 45 eggs in 2 weeks. Eggs are laid in soft plant tissue (ie. main stem, leaf veins), with only the white top of the egg being visible. Eggs hatch in 4-5 days and grow through 5 instars. Adults can live for 3 - 4 weeks. All stages run quickly, and adults are good flyers. They are efficient at locating pests throughout the greenhouse. *Orius* kills its prey by piercing them with its mouthparts and sucking out the body fluids. Thrips appear shriveled after being consumed, and are therefore difficult to see.
Orius insidiosus are shipped in shaker bottles containing 500 mixed nymphs and adults in buckwheat. The carrier provides adults with hiding places to reduce cannibalism. Release immediately.

Target: *Orius* prefers various species of thrips (incl. western flower & onion thrips), but will also consume aphids, mites, whiteflies, and the eggs & larva of other soft bodied insects.

Release: Release these true bugs at sundown the day of receipt. To release, gently rotate the bottle to distribute the predators evenly with the carrier. Open the bottle in the crop area, and gently tap out the predators and their carrier directly on the foliage of the infested plants, or evenly throughout the area if infestation is widespread. Some will fly out on their own. For any that will not readily come out of the bottle, tuck bottle in foliage of plant, preferably one with a heavy pest population. Leave carrier material at its introduction site for several days. *Orius* like to hide in flowers & may not be obvious on foliage.

Rate: The general recommendation is to release 100-400 per ½ ha (1 acre), depending on crop. 100-500 in the greenhouse or 1/m^2 (1 per 11ft^2). Higher numbers can be released in hotspots. Because of the length of its life cycle, release should be repeated 2 weeks later.

Notes:

- 17-29°C (62-84°F) RH 60%. If temp. falls below 15°C (65°F), *Orius* will stop breeding. Diapause occurs in less than 14 hours of daylight. Do not store *Orius* for more than 8 hours. If unable to release immediately, hold at 10°C (50°F).
- *Orius* needs a food source before release, so it's best to use *A. cucumeris* (available at NIC) until a thrip population is established or pollen is available.
- Use blue sticky cards (available at NIC) to monitor thrips at a rate of 1 trap/50 plants.
- Beneficial Nematodes (available at NIC) will help control thrips that drop to the soil to pupate.
- Do not release immediately before or after pesticide applications.

Please let us know within 24 hours of receipt if there are any problems with your Live Insect Order.

Give a Bug a Hug Click here– They're More Adorable Than You Think!

For further Information Contact: **NATURAL INSECT CONTROL**, 3737 Netherby Road, Stevensville, Ontario, L0S 1S0
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For further Information on all NIC Beneficial Insects go to **www.naturalinsectcontrol.com**