

2008 Crop Recommendation for Poinsettia

Overview:

Poinsettia has been successfully grown using Biological controls for over 10 years in North America and Europe. The major pest associated with the Poinsettia is Whitefly. Plants propagated in tropical regions can be infested with *Bemisia* or Sweet Potato Whitefly, which makes international movement difficult because it is a quarantinable pest.

Propagation:

Young seedlings, cuttings, or tissue culture plants should be inoculated with *Hypoaspis miles* as soon as they are in the growing media. *Hypoaspis* can be applied overhead using a hand spreader, shaken onto the flats, or premixed right into the soil mix provided it is used up the same day.

One week after introduction of *Hypoaspis*, nematodes should be watered in at the recommended rate. The nematodes ensure an effective knock-back of the fungus gnats and also feed and help disperse the *Hypoaspis*.

Rates for *Hypoaspis* are 100 per square meter

Whitefly will be prevented by weekly by using **fresh** *Encarsia*, at a rate of 1 per square meter, in no whitefly are apparent, and up to 4 per square meter if there is a population of whitefly present.

Main Crop:

Re-apply *Hypoaspis* at the transplanting stage at the same rate (100 per square meter) and also repeat the nematode application one week later. Fungus gnats should be monitored using yellow sticky traps. The larvae should be regularly monitored by applying a slice of raw potato to the surface of the soil. Leave it there for a set period of time eg. 1 hour, then remove and inspect. The larvae are attracted to the potato. Increasing numbers suggest a developing problem, while decreasing numbers show control.

If you are receiving plants from a propagator, carefully assay the pest situation. If *Bemisia* is believed to be present, immediately start **fresh** *Encarsia* at 4 per square meter per week and also apply *Delphastus catalinae* at a rate of 10 per square meter one time only.

If the plants appear clean, begin weekly introductions of **fresh** *Encarsia* at a rate of 1 per square meter per week.

We have had considerable success using Monitoring/Trap/Banker plants in Poinsettia. The best plant to use is Eggplant. In Poinsettia you can also use Tomato plants, as they too are more attractive to the whitefly. The Eggplant will be more effective attracting thrip and aphids however. The trap plants should be placed throughout the crop. For Eggplants, 1 per 1000 square meters. For Tomato, 1 per 500

square meters. For Whitefly control, the Eggplants work best with the Greenhouse Whitefly. Until we find a more appropriate Trap Plant for Bemisia, it is best to rely on *Delphastus* more, by doubling the rate.

The trap plants will help in monitoring, as the pests will show up in these plants first. They can be valuable as an actual trap, if they are vacuumed on a daily basis using a “Dust-buster”. Make sure that the vacuum is frozen overnight to kill the pests. By focusing the Beneficial insects on these plants, they will become effective banker plants, generating your own crop of Beneficial insects.

As aphids now appear to be ready to move onto any crop, they should be anticipated. Any sign of aphids should be reacted to by weekly introductions of *Aphidoletes aphidimyza* at a rate of 3,000 per hectare. Continue until all of the aphids are gone.

Thrip attack should be dealt with using *Amblyseius cucumeris*, broadcast over the crop, at a rate of 100 to 1000 per square meter. The trap plants will help with both the thrips and the aphids (especially the Eggplants).

Finishing Off:

Because the light level drops so dramatically, any pests still established will suddenly get a reprieve. It is very important to have a clean crop prior to the light level drop. If there are some whitefly still present, discontinue the *Encarsia* and increase the use of *Delphastus*, because the *Delphastus* are not affected by low light levels.