

# BIOLOGICAL CONTROL STRATEGY FOR GREENHOUSE POINSETTIA PRODUCTION



## GLOBAL HORTICULTURAL INC. CONTROL AGENTS FOR GREENHOUSE POINSETTIAS

PEST	BCA	PRODUCT	RATE		TIMING	COMMENTS
			m <sup>2</sup>	ft <sup>2</sup>		
<b>Whitefly</b> <b>Greenhouse whitefly</b> <i>(Trialeurodes vaporarum)</i> <b>Silverleaf whitefly</b> <i>(Bemisia tabaci)</i>	<i>Eretmocerus eremicus</i>	<i>Eretmocerus</i> pupae	10	1	Start second week after sticking cuttings or immediately after planting. Repeat weekly.	Optimal introduction method for <i>Eretmocerus</i> is blister packs. Keep blister packs (or cards) out of direct sunlight and open release flap on the back. <i>Eretmocerus</i> does significantly more hostfeeding than <i>Encarsia</i> .
	<i>Encarsia formosa</i>	<i>Encarsia</i> pupae	10	1	Start second week after sticking cuttings or immediately after planting. Repeat weekly. Use a mix product with <i>Eretmocerus</i> for optimal results.	Hang <i>Encarsia</i> cards between the crop so pupae are protected against direct sunlight. Optimal temperature of <i>Encarsia formosa</i> is between 18-27°C (65-80°F).
	<i>Amblyseius swirskii</i>	<i>Swirskii</i> sachets	1 (stick) sachet per pot		Place sachets at sticking / seeding and again during transplanting into larger pots	
<i>Swirskii</i> loose			100-150	10-15	First introduction on rooted cuttings. Second introduction just prior to spacing and then release every 2 weeks until moment of colouring. Curative --> 300-400 / m <sup>2</sup> .	Distribute evenly over leaf canopy.
<b>Fungus gnats &amp; shore flies</b> <i>(Bradysia spp. &amp; Scatella spp.)</i>	<i>Stratiolaelaps scimitus</i> ( <i>Hypoaspis miles</i> )	<i>Stratiolaelaps</i> loose	100	10	Apply at sticking and transplanting.	If applied at rooting stage, second application should be half rate at transplanting.
	<i>Dalotia coriaria</i> ( <i>Atheta coriaria</i> )	<i>Dalotia</i> adults / larvae	2	0.2		
	<i>Steinernema feltiae</i> & <i>Steinernema carpocapsae</i>	<i>Steinernema feltiae</i> / <i>carpocapsae</i> sponge	20,000	2,000	Apply at sticking and repeat twice during rooting stage. Re-apply after transplanting.	Correct application is critical for efficacy. Make sure solution is agitated, fine filters are removed and pressure is kept low.

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<b>Two-spotted spider mites</b> <b>(<i>Tetranychus urticae</i>)</b>	<i>Phytoseiulus persimilis</i>	<i>Phytoseiulus</i> loose	8-10	0.8-1	Start when first spider mites are detected. Repeat weekly until <i>P. persimilis</i> is established and spider mites are controlled. Curative --> 100-150 / m <sup>2</sup> in and around hotspots.	Twist the bottle slowly during use for a more even distribution of the mites. Sprinkle material on the larger leaves and avoid introduction in bright sunlight. <i>Phytoseiulus persimilis</i> does not work well on Lewis mites.
<b>Lewis mites</b> <b>(<i>Eotetranychus lewisi</i>)</b>	<i>Amblyseius andersoni</i> / <i>Amblyseius californicus</i>	<i>Andersoni</i> / <i>Californicus</i>	6-10	0.6-1	Start when first Lewis mites (or spider mites) are detected. Repeat weekly for 3-4 weeks until mites are controlled. Curative --> 25-50 / m <sup>2</sup> in and around hotspots.	
<b>Thrips, Western Flower Thrips</b> <b>(<i>Frankliniella occidentalis</i>)</b>  Note: Western Flower Thrips (WFT) do not produce well on poinsettia, but can still create a lot of damage. Typically WFT will decrease naturally in poinsettia crops.	<i>Amblyseius swirskii</i>	<i>Swirskii</i> sachets	1 (stick) sachet per pot		Place sachets at sticking / seeding and again during transplanting into larger pots	
		<i>Swirskii</i> loose	100-150	10-15	First introduction on rooted cuttings. Second introduction just prior to spacing and then release every 2 weeks until moment of colouring. Curative --> 300-400 / m <sup>2</sup> .	Distribute evenly over leaf canopy.
	<i>Stratiolaelaps scimitus</i> ( <i>Hypoaspis miles</i> )	<i>Stratiolaelaps</i> loose	100	10	Apply at sticking and transplanting.	If applied at rooting stage, second application should be half rate at transplanting.
<i>Dalotia coriaria</i> ( <i>Atheta coriaria</i> )	<i>Dalotia</i> adults / larvae	2	0.2			