

# Integrated Pest Management Plan\*

## IPM plan

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**Company name:** MPS sample company

**MPS number:** 00001

**Crop / Crop group:** Chrysanthemums

**Date:** 7/12/2023

**Table 1: Pests/diseases/weeds**




Harmful organisms (economic relevance)		
Pests	Diseases	Weeds
<input checked="" type="checkbox"/> Thrips <input type="checkbox"/> Spider mites <input checked="" type="checkbox"/> Aphids <input type="checkbox"/> Whiteflies <input type="checkbox"/> Caterpillars, namely: <input type="checkbox"/> Mealybugs <input type="checkbox"/> Mites <input type="checkbox"/> Other pests, namely:	<input checked="" type="checkbox"/> Fungal diseases, namely: Botrytis  Viruses, namely:  <input type="checkbox"/> Other, namely:	<input type="checkbox"/> Weeds, namely:

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**Table 2: Images and symptoms of harmful organisms**

Name of pest (disease)	Image or reference	Description of symptoms	Ideal conditions for spread of pest	Economic threshold
Aphids		Leaves curl and may even drop off in extreme cases.	1	2
Thrips		Beige to white spots on the leaf surface. Dark green to black dots on the leaves indicate thrips excrement.	1	2
Botrytis		Grey fuzzy fungus consisting of fruiting bodies (perithecium). Occurs on stems, leaves, flowers and fruits. Affected leaves will partially or completely die off. If the stem is also affected, the entire stem may wilt.	2, 5	2

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Example			<ol style="list-style-type: none"><li>1. High temperature</li><li>2. Highly fluctuating temperature (day/night)</li><li>3. Humid climate</li><li>4. Dry climate</li><li>5. Crop residues/old plants</li><li>6. Other</li></ol>	<ol style="list-style-type: none"><li>1. No alternative available</li><li>2. The pest is too far advanced in the crop</li><li>3. Biological control is not an option</li><li>4. Economic loss will be too great</li><li>5. Other</li></ol>
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**Table 3: Preventive measures**

Preventive measures	Measure	Yes/no	Reasons/comments
Resilient plants	Variety characteristics	No	
	Healthy starting material	Yes	Important to start off clean
	Use of biostimulants (plant invigorators)	Yes	Strong plants are less susceptible to Botrytis
Company hygiene	Crop changeover/crop rotation	No	
	Use of clean/healthy starting material	No	
	Soil disinfection	No	
	Hygiene protocol	Yes	Less ingress of harmful organisms
	Maintenance/cleaning/disinfecting of machines	No	
	Drain/irrigation water disinfection	No	
	Removal and correct disposal of diseased plants	Yes	Important for Botrytis
	Use of insect screens	No	
	Hygiene sluice/work clothing etc.	Yes	Part of hygiene protocol
Resilient cultivation environment	Composition of growing medium	No	
	Composts or organic additives mixed in	No	
	Fertilisation (e.g. to increase disease tolerance)	Yes	Healthy plants are stronger against diseases
	Microbiological composition of irrigation and recirculation water	No	
	Climate (e.g. dew formation, temperature)	Yes	Keep RH low
	Lighting (LED lights, indirect effect of lighting)	No	

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Preventive measures	Measure	Yes /	Reasons
Natural predators (beneficial organisms) and antagonists	Use of natural predators (beneficial organisms)	Yes	Use green crop protection products
	Use of banker plants (indoor cultivation)	No	
	Use of microorganisms	No	
	Use of ground cover vegetation strips (outdoor)	No	
Other measures	Spraying	Yes	Preventive spraying with Serenade against fungi

**Table 4: Monitoring**

Monitoring	How	Yes/no	When
Scouting	By worker	No	
	By grower	Yes	Worker responsible for daily plant care, who will notice straight away if something is wrong
	By crop consultant/adviser	No	
Resources	Sticky traps (yellow or blue)	Yes	To check for the presence of pests near the plants
	Pheromone traps	No	
	Insect lamps	No	
	Spore traps	No	
	Drain or irrigation water analyses	No	
	Tagging pests/diseases	No	

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Monitoring	How	Yes / No	When
Monitoring cultivation conditions	Weather forecasts	No	
	Crop scanner	No	
	Decision support systems (DSS)	No	
	Recording checks carried out	No	
Other measures			

**Table 5: Control measures**

Control measures	Measure	Yes/no	Reasons
Use of non-chemical measures	Use of insect traps	No	
	Use of insect lamps	No	
	Use of disruptive factors	No	
	Use of insect screens	No	
	Manual/mechanical weeding	No	
	Use of biological pest control	Yes	Transeius montdorensis, Aphidius colemani for green crop protection
	Use of pheromones	No	
	Other, namely:	No	
Use of chemical measures	Low-risk crop protection agent	Yes	Neudosan, as it is effective against multiple pests and is a low-risk agent
	Targeted crop protection agent	Yes	Teppeki for aphids
	Effective agent against multiple diseases and harmful organisms	No	
	Crop protection agent with minimal side effects	No	

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**Table 6: Monitoring resistance**

Measure	Yes/no	When
Applying dose stated on label	Yes	Whenever I spray
Maximising the efficiency of pest control	Yes	Whenever I spray
Minimum control frequency	Yes	All year round
Alternating agents from different resistance groups	Yes	Every time I use a chemical crop protection agent
Other, namely:	No	

You can find the resistance groups of crop protection agents on the following websites: IRAC

<https://irac-online.org/modes-of-action> (insecticides)

HRAC <https://hracglobal.com/index.php> (herbicides)

FRAC <https://www.frac.info/> (fungicides)