BIOLOGICAL SYSTEMS

INTRODUCTION SCHEME
2006 Chrysanthemum

GENERAL

Before introducing beneficials, the greenhouse and plants should be free of harmful pesticide residues.

Before the beginning of your cultivation discuss with your advisor a plan of approach for the whole season.

SCOUTING AND MONITORING

Use yellow Bug-Scan® sticky traps for (timely) detection of flying insects. During the heating of the greenhouse hang min. 20 yellow sticky traps per ha to detect the first flying insects.

Also use yellow Bug-Scan® sticky traps during the cultivation. Count and register during **minimum the first 10 weeks** of your cultivation the different species of flying insects which are captured on the sticky traps.

CONTACT WITH BENEFICIALS

Follow up carefully the user's instructions; always pay attention to the icons on the packing. If necessary consult the Icon Guide.

Introduce beneficials preferably early in the morning.

If you want to store the beneficials for a short time, you have to reckon with the storage temperature and the use by date which are mentioned on the packing.

CHEMICAL CORRECTIONS

If a chemical correction has been inevitable, use as much as possible selective chemical crop protection products. Try to apply chemical corrections on local spots.

In case of doubt about the side effects of pesticides, contact your advisor or consult the Side Effects Manual which is available on www.biobest.be.

Biobest N.V. - Ilse Velden 18 - 2260 Westerlo (Belgium) - Tel : +32.14.25.79.80 - Fax : +32.14.25.79.82 - E-mail:info@biobest.be - www.biobest.be

BIOLOGICAL CONTROL OF WHITEFLY

Encarsia-System
(parasitic wasp - *Encarsia formosa*)

- Available as sprinkling material or on cards with 50 or 100 *Encarsia formosa*/card.
- Curative: Introduce weekly 2 - 3 *Encarsia formosa*/m² until a sufficient number of whiteflies are parasitized (80 %).
- In hot spots: Introduce 5 - 10 *Encarsia formosa*/m²/week.
- Remark:
  - As from the moment that whitefly is detected, introduce more *Encarsia*.
  - If necessary, introduce longer.

BIOLOGICAL CONTROL OF SPIDER MITE

Phytoseiulus-System
(predatory mite - *Phytoseiulus persimilis*)

- Introduce minimum 6 *Phytoseiulus*/m² as soon as the first spider mites are detected.
- The dose depends on the severeness of the spider mite damage.
- In and around hot spots: Introduce minimum 20 *Phytoseiulus*/m².

BIOLOGICAL CONTROL OF THRIPS

- First: after planting: a chemical product with a short resistance is applied in the crop.
- During sprayings with an "inhibitor" a broad-working insecticide is applied.
- Discuss the possibilities and products with your advisor.

Hypoaspis-System
(predatory mite - *Hypoaspis* spp.)

- Before or just after the plantation disperse 100 - 250 *Hypoaspis*/m².
- Do not introduce immediately after the disinfection or steaming (not enough nourishment).

Orius-System
(predatory bug - *Orius majusculus*)

- Introduce *Orius majusculus* preventive on a weekly base, 1 week after the treatment with a chemical product.
- Introduce minimum 2000 predatory bugs/ha.

Biobest N.V. - Ilse Velden 18 - 2260 Westerlo (Belgium) - Tel : +32.14.25.79.80 - Fax : +32.14.25.79.82 - E-mail:info@biobest.be - www.biobest.be

BIOLOGICAL CONTROL OF APHID

Aphidoletes-System
(gall midge - *Aphidoletes aphidimyza*)

- Preventive: Introduce 0,1 *Aphidoletes*/m².
- Curative: Introduce 1 *Aphidoletes*/m²/week.
- Disperse *Aphidoletes* on a moist substratum or in buckets.
- Remark: The gall midges have an excellent ability to search, but they can become disorientated by frequent use of a sulphur steamer.

Ervi-M-System
(parasitic wasp - *Aphidius ervi*)

- Introduce *Aphidius ervi* if Potato aphid or Glasshouse potato aphid are occurring.
- Introduce 2 *Aphidius ervi*/m² in and around hot spots.
- Introduce the parasitic wasps at the bottom of the plants, preferably in the neighbourhood of aphid hot spots.

Aphidius-System
(parasitic wasp - *Aphidius colemani*)

- Preventive: Introduce 0,1 *Aphidius colemani*/m² weekly.
- Curative: Introduce 0,5 *Aphidius colemani*/m²/week during 3 weeks and until a sufficient number is parasitized.
- Do not throw away heavy infested flowers, because *Aphidius* can multiply on them.

Aphidius-Mix-System
(parasitic wasps - *Aphidius colemani* & *Aphidius ervi*)

- Preventive: Introduce 2 x 500 Aphidius-Mix-System/m² weekly.
- As soon as aphids are detected, add *Aphidoletes*.

Banker-System
(open rearing system for the control of aphids)

- Weekly 3 Banker-Systems until 1 system per 750 m² is present.
- Introduce the Banker-Systems in boxes, so that these boxes can be moved later on (e.g. when the crop has been sprayed).

BIOLOGICAL CONTROL OF LEAFMINER

Dacnusa-Mix-System
(parasitic wasp - 90 % *Dacnusa sibirica* & 10 % *Diglyphus isaea*)

- Introduce preventive on a weekly base 2 - 4 tubes Dacnusa-Mix-System/ha.
- Remark: Samples of the leaf should be tested regularly to determine the percentage of parasitized leafminers. To have a sufficient control, the percentage must be 80 - 90 %.

Diglyphus-System
(parasitic wasp - *Diglyphus isaea*)

- Introduce 0,5 - 1 *Diglyphus isaea*/m².
- Remark: Samples of the leaf should be tested regularly to determine the percentage of parasitized leafminers. To have a sufficient control, the percentage must be 80 - 90 %.

EN 050630

Biobest N.V. - Ilse Velden 18 - 2260 Westerlo (Belgium) - Tel : +32.14.25.79.80 - Fax : +32.14.25.79.82 - E-mail:info@biobest.be - www.biobest.be