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Standard Specification for *Amblyseius cucumeris* (= *Neoseiulus*) *Oudemans* (Acarina: Phytoseiidae)[1]

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1. Scope

1.1 This specification includes standard terminology, classification, and referenced documents as well as description of the test methods for determining the number of *Amblyseius cucumeris* Oudemans supplied on the bulk carrier or in slow release sachets. Description of the method for assessing the purity of shipments is also included.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E2200 Specification for Information Included with Packaging of Multi-Cellular Biological Control Organisms (Withdrawn 2010)[3]

3. Terminology

3.1 *name of product—Amblyseius cucumeris* Oudemans.

3.2 *preferred host prey*—Western flower thrips (*Franklinella occidentalis*).

3.3 *onion thrips (Thrips tabaci)*—also cyclamen and broad mites.

3.4 *life stage when shipped*—all stages, eggs, nymphs, adults.

4. Classification

4.1 *Phylum*—Arthropoda.

4.2 *Class*—Arachnida.

4.3 *Order*—Acarina.

4.4 *Family*—Phytoseiidae.

4.5 *Genus*—Amblyseius = Neoseiulus.

4.6 *Species*—cucumeris.

5. Summary of Test Method (Determining the Number of *N. cucumeris* Released from a Slow Release Sachet)

5.1 The test describes methods for *(1)* estimation of the number of *A. cucumeris* released from sachet based on examining a few randomly selected sachets per shipment, and *(2)* assessing the purity of shipment.

5.2 A few sachets are chosen randomly from a shipment and each sachet is suspended from a wire hanger and placed on a sticky trap surface ("Catch it," Silvandersson Sweden AB). Mites are allowed to disperse from sachets, and each week, mites caught on the sticky trap are counted and recorded.

6. Significance and Use

6.1 The biological control of flower thrips by *N. cucumeris* is, in part, dependent on accurate release rates and consistent release pattern of *N. cucumeris*. Supplying fewer predatory mites than indicated on the label or restricting duration of release may upset host-predator balance and could lead to the failure of biological control. This test was developed for the benefit of biocontrol producers and IPM practitioners.

7. Materials

7.1 Yellow sticky traps with a grid and coated with dry glue.

7.2 A 20-cm high wire hanger.

8. Test Unit

8.1 A shipment of *A. cucumeris* is considered a test unit.

9. Pre-Test Conditions

9.1 Samples could be held in a cool place at 10 to 20°C out of direct sunlight for a maximum of 24 h before testing.

10. Sample Size

10.1 Choose four or more sachets from a shipment (needs to be determined).

[1] This specification is under the jurisdiction of ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents and is the direct responsibility of Subcommittee E35.30 on Natural Multi-Cellular (Metazoan) Biological Control Organisms.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] The last approved version of this historical standard is referenced on www.astm.org.