

Time to Revisit Quality Guidelines!

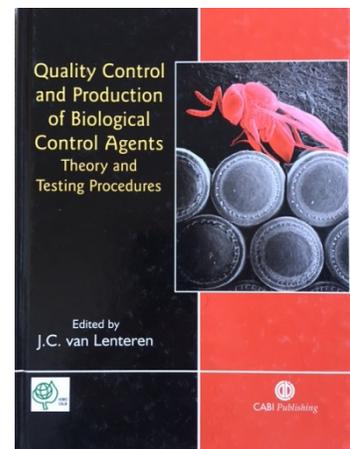


Angela Hale

Quality Assurance Committee Chair
ANBP

If you are a researcher, wanting to compare predatory mites from three different suppliers, or a grower wanting to ensure that your weekly supply of *Encarsia* arrives in good condition and ready to emerge, what testing method do you use? Wouldn't it be desirable to have solidarity from our members as to what tests are appropriate and accurate? That was the consensus of a group of ten ANBP and IBMA (International Biocontrol Manufacturers Association) members that met informally during the recent 14th IOBC-MRQA Workshop in Mérida, Mexico.

IOBC (International Organization for Biological Control) guidelines are widely used and are available on the IOBC-MRQA website (and from ANBP's Quality Assurance webpage) and in van Lenteren's book "Quality and Production of Biological Control Agents: Theory and Testing Procedures" but these have not been revised since 2003. Many species do not have guidelines published (*Amblyseius swirskii* for example) and many guidelines are not practical (Sachet walk out for example). Much work was done from 1998-2013 in North America to test and publish ASTM Standards and although this system had the advantages of consensus and third-party review, ASTM Standard development was abandoned due to copyright issues that made the material unavailable for free distribution.



In 2014, Rose Buitenhuis was instrumental in compiling the publication "*Grower Guide: Quality Assurance of Biocontrol Products*" (with support from ANBP and the University of Florida IPM), available free online, and designed for the customer to do tests themselves (excerpt at right). The guidelines have practical tips and photos to help any end user of commercial BCA's. The link is on ANBP's home page: www.anbp.org and at www.vinelandresearch.com.

At the Mérida meeting, Tom Groot (Koppert) gave a report from the IBMA Macrobial Group which states that a new protocol needs to be developed for counting predatory mites to avoid a recent situation where a supplier's reputation was damaged by inaccurate test results. It is important to develop a

Materials needed to do quality checks:

Many of the materials can be obtained from companies selling entomological supplies (for example www.bioquip.com), an art store (paintbrushes) or the supermarket (cups). For ventilation holes in cups and containers, attach fine mesh insect screening over the hole with hot glue. Contact your extension person or consultant for more suggestions on where to get supplies.

- Handlens (at least 10X magnification)
- Stereomicroscope (up to 40X magnification)
- Aspirator (It is recommended to use a power-insect aspirator instead of a mouth-insect aspirator to prevent inhalation of small particles or contaminants)
- Fine paintbrush
- Fine mesh cage, e.g. Bugdorm
- Deli cups/drink cups with screened ventilation holes and lid
- Sugar water (mix 40g sugar + 60 ml warm water) or honey
- Yellow sticky cards
- White paper or tray
- Measuring cups, teaspoon (5 ml), tablespoon (15 ml)

Mechanical aspirator Fine mesh cage Screened cup with lid Cotton wool and sugar water

http://www.vinelandresearch.com/sites/default/files/grower_guide_pdf_final.pdf.

protocol that works independently of carrier used. Presently, ensuring numbers as stated on the label is the only concern, not performance. IBMA and ANBP member companies will continue to work together to revise and improve quality guidelines and the 'Grower Guide' method will be brought forward for testing and approval.

There are currently two types of tests being used: one for growers (at the customer's gate) and one for third parties and more sophisticated researchers (at the producer's gate). Consensus of the biocontrol companies present in Mérida is that it should remain that way, and in North America, many growers and IPM specialists wish to do their own testing. There was a discussion about statistics and how rigorous to test, how many samples are needed (depending on the type of product tested) and how to use statistics to determine optimum percent of overpacking to ensure counts will be in the acceptable range

The IOBC-MRQA Working Group website is a logical platform for global quality guidelines. A steering committee needs to be created with IOBC/ANBP/IBMA members available to compile lists and review existing guidelines. There needs to be clear milestones and an academic leader to help this process and perhaps a funding source. BioProtection Global (BPG), an international group of associations similar to ANBP, and to which we belong, may be an appropriate organization to approve process and communicate with member associations.

Angela Hale is Entomology Consultant for Biobest Biological Systems.
