




Quality Assurance at the Grower Level

Presented by Brian Spencer
Applied Bio-nomics Ltd.



Role of the Producer

- ✓ Ensure that regular and effective Quality Control procedures are in place
- ✓ Develop dating system or at least a confidential batch date system
- ✓ Constantly evaluate culture for negative characteristics
- ✓ Regularly challenge culture for promised traits (eg. Non-diapausing)
- ✓ Ensure packaging is effective

Role of the Grower

- ✔ Buy from a reputable distributor
- ✔ Immediately open the shipping package
- ✔ Inspect products immediately
- ✔ Apply products as soon as possible
- ✔ Immediately inform supplier of any concerns or problems
- ✔ Monitor the development in the crop

Simple Quality Assurance tests

- ✔ Arranged by product type
- ✔ Intended to be immediate
- ✔ Uses a minimum of equipment
- ✔ Should either reassure the customer or point out a potential problem with the product

Predatory Mites in a Granular Carrier; Method A

- Remove container from carton and inspect for damage
- Gently rotate to mix
- Bang down on table and leave for 1 min.
- Look through container or open lid to observe movement of mites
- Leave for 10 min. to get an idea of numbers



Predatory Mites in a Granular Carrier; Method B

- Gently and thoroughly mix container and remove 10% of volume
- Pour sample out onto a clean white piece of paper
- Gently disturb the carrier and squish mites as you find them
- Note general condition and speed of mites
- Continue disturbing carrier for entire test as some mites may be reluctant to leave carrier if food is present



Predatory Mites on a Leaf Carrier

- ☞ Examine leaves for sign of freezing
- ☞ Mix leaves by hand
- ☞ Select a range of samples (ie; small leaves, dark, damaged etc.), representative size.
- ☞ With hand lens or microscope, count all mobiles and eggs on all sides



Predatory Mites in a Bran Carrier



- Difficult to do simple test
- Experience allows simpler testing
- “Pour on – pour off” type testing
- Pour onto white paper or hand
- Predators are fast, food mites are slow

Beetles and Predatory Bugs



- Chill container for at least 15 min.
- Go to release site and pour contents out onto white paper
- Count all stages and estimate those remaining in container

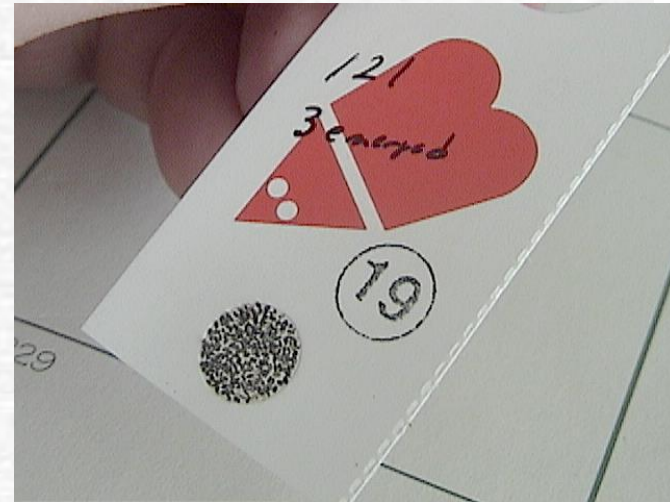
Predatory Midges in Pupae form

- *A. aphidimyza*
- Allow adults to emerge in a clear, flat surfaced container
- Mark off a representative area on the lid and count



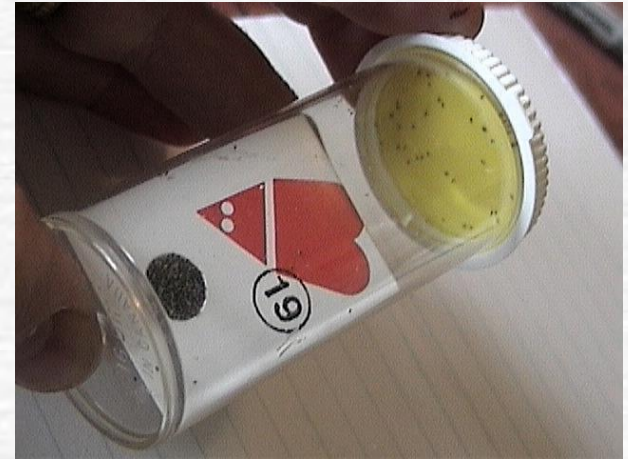
Parasitoids in Pupae form, mounted on Cards; Method A

- ☞ Select a random card
- ☞ Using microscope, count all pupae, noting empty cases
- ☞ Mark count on card, flag card, and hang in crop
- ☞ After 2 weeks, remove card and count again



Parasitoids in Pupae form, Method B (new)

- ✔ Select random card
- ✔ Place in 40 dram vial with yellow sticky card disc on inside of lid
- ✔ Place assembly in crop ensuring no direct sunlight
- ✔ After 2 weeks, count adults stuck on yellow disc, also count adults on bottom of container
- ✔ An even distribution of adults on disc suggests flight capability



Parasitoids in Loose form



- Measure out representative sample
- Put pupae in 40 dram clear vial with yellow sticky disc on inside of lid
- Leave in protected area of crop for 2 weeks
- Count adults on yellow disc

Summary

- Grower should appoint one person to regularly inspect beneficials
- This person should also direct application in crop and order beneficials
- Use these tests or develop your own
- Monitor performance in crop and keep an accurate record of application rates and dates