

Adaptive Area Wide Management of Qfly using SIT

2016 #2

Area Wide Management – trapping



AWM is considered vital for control of fruit fly, and enhances the success of Sterile Insect Technique (SIT). AWM should be undertaken over the full year, not just during the growing season, and is a long-term approach. The individual methods or treatments used in AWM can be the same as those used on-farm. Treatments used on-farm such as hygiene, baiting, trapping and monitoring can be used off-farm as part of an integrated AWM program across regions.

Urban areas within an AWM region can provide habitat for Qfly, and the choice of strategies for urban areas depends on the acceptance of those strategies by the community, and the level of support provided to the community when participating. Trapping provides a good option in urban areas as traps are contained and require little maintenance. It is important to be very clear about the purpose of trapping. There are a number of ways in which traps are used and avoiding confusion is difficult. Growers are more familiar with trapping and may already know of the following trapping uses;

To maintain or establish a Pest Free Area (PFA)

The National Code of Practice for managing fruit fly outlines a trapping system to maintain area freedom. This system is used for Tasmanian recognition internationally as a PFA. Trap type, placement and monitoring are specified. Traps are placed in a grid system of 1km square in production areas and 400m square in residential/urban areas and monitored regularly. Detections of Qfly in this trapping system within a PFA trigger emergency eradication responses.

To meet export protocol requirements

Whether exporting domestically or internationally (from a non-PFA) some protocols have specific requirements for trapping. Meeting Interstate certification assurance protocols (ICAs) may require that certain procedures have been undertaken - which may include trapping; please check with your state body for ICA information. Likewise, meeting international protocols may require that some form of trapping is undertaken; please check with the Department of Agriculture and Water Resources for current export information, or the MICOR (Manual of Importing Country Requirements).

To monitor and inform management to prevent or reduce Qfly populations

To inform management, monitoring should be used to understand population trends rather than population at a particular point in time. Traps can be used to inform the arrival of a population and the commencement of other treatments such as bait-spraying. The combination of MAT (male annihilation technique) and bait-spraying is used widely.

To prevent or reduce Qfly populations

Some growers are trialling mass trapping as a treatment that can be used in conjunction with other treatments such as bait-spraying. Mass trapping involves placement of traps at a high density; optimum effects are seen over longer periods of time and over large areas.

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Traps used for monitoring purposes are generally male traps. There are commercially available female-biased traps for use in mass trapping systems. Male flies respond to chemical lures such as cuelure and methyl eugenol. Female flies require protein, especially early in maturity, so the female attractants are protein-based.

Currently, commercially available examples of female-biased traps include the CeraTrap and the BioTrap. The CeraTrap contains a protein-based liquid without a toxicant in which flies will enter and drown. The BioTrap contains a protein-based attractant gel and can be used with a toxicant. Both will trap male and female flies, with female flies more likely to be trapped early in the adult stage, before they begin mating. In both production and urban areas alongside male traps, these traps may contribute to reducing the initial population of females emerging within the immediate area, but will not attract flies over large distances (flies are very good at 'hiding' and you may not see them until a trap is used).

The Adaptive Area Wide Management project is engaging a number of Queensland fruit fly experts and developing a risk model for Queensland fruit fly – this will help us know where they are hiding in the landscape, and where to focus efforts! And eventually to develop guidelines for regional communities to undertake effective AWM.

AWM approaches are taking place in regions across Australia. While there are many good results there are also many challenges. It is a difficult logistical exercise, and needs to consider the social and regulatory frameworks in each area. However, a regional approach is encouraged. Residents and growers are both affected by fruit fly and will both benefit from a coordinated approach. There is a lot to look forward to!



For further information please contact;
Dr Penny Measham
Area Wide Management Coordinator, SITplus
Horticulture Innovation Australia
penny.measham@horticulture.com.au
0417 525 904

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Innovation
Australia**

