

The importance of SIT and area-wide pest management

The Sterile Insect Technique (SIT) is key in helping to revolutionise pest control methodologies, when combatting the damage caused by FCM infestations.

The SIT programme of X-Sterile Insect Technique (XSIT), a company owned by the CGA, involves rearing large quantities of false codling moths and then sterilising them using radiation. These sterilised moths are subsequently released into infested areas, where they mate with wild counterparts. The resulting infertile eggs lead to a decrease in the overall FCM population over successive generations.

Benefits of implementing SIT for false codling moth

- **Environmentally friendly:** SIT reduces the necessity for chemical pesticides, thereby preventing environmental contamination and preserving ecosystem balance.
- **IPM-friendly:** SIT is fully compatible with an integrated pest management (IPM) programme and provides a good foundation for an FCM IPM programme.
- **Targeted pest control:** FCM populations can be specifically targeted without harming non-targeted species or beneficial insects.
- **Reduced crop damage:** By suppressing FCM populations, SIT helps safeguard fruit crops, minimising economic losses for farmers and being part of the drive to reach phytosanitary levels of pest detection.
- **Long-term effectiveness:** When consistently applied, SIT can offer sustainable and long-lasting suppression of FCM populations.

FCM, scientifically known as *Thaumetotibia leucotreta*, poses a significant threat to various fruit crops worldwide, particularly citrus fruits, stone fruits, and table grapes. By **Rob Elfick**



False codling moth

Over and above the benefits listed, XSIT offers even more to the growers who are on the SIT programme. They provide valuable weekly in-orchard monitoring and reporting of captured data to assist growers with on-farm decisions regarding best practices and additional control measures when required.

XSIT provides

- **Moth flight activity:** Providing both area and sub-area reports on FCM activity through trap catch data for monitoring moth populations with access to outside-of-orchard newsletters, showing pressure in the surrounding environments in each sub-area.
- **Infestation monitoring:** Fruit inspection for larval infestation "for internal use" at each one of the SIT programme delta trap stations from December to harvest, to evaluate the effectiveness of the overall FCM management practices. The early start as well as the extended duration of monitoring can also act as an early warning system in some cases.
- **Sanitation reports:** Weekly sanitation gradings and communication are sent via WhatsApp. Once harvest is completed, out-of-season fruit sanitation grading will be done to assist with orchard stripping, to prevent the carryover of infested fruit into the next season.

Area-wide pest management (AWPM) is a game changer in combatting FCM and XSIT should be used as such.

Here is why it is important to use SIT as an Area-Wide FCM Population Suppression Tool

- **Comprehensive approach:** SIT isn't limited to isolated pest control on a particular farm. It's part of an area-wide IPM (AW-IPM) strategy. It involves collaboration among various stakeholders, such as farmers, researchers, service providers, and government bodies.
- **Preventing spread:** FCM infestations can spread rapidly across regions. SIT, when implemented on a larger scale, helps contain and suppress these populations from spreading to new areas and prevents reinfestation of areas.
- **Economic impact:** False codling moths can cause devastating economic losses in agriculture. SIT plays a critical role in preserving crop yields, thus safeguarding livelihoods that are dependent on these crops.
- **Enhancing food security:** By safeguarding fruit crops from FCM damage, SIT contributes to ensuring a stable food supply, thereby supporting food security initiatives.

The SIT stands as a powerful and sustainable option for suppressing false codling moth populations. Its environmentally friendly nature, targeted approach, and long-term effectiveness make it a crucial tool in safeguarding fruit crops, minimising economic losses, gaining, and retaining market access, and promoting sustainable agricultural practices.

As on-going research and advancements continue to refine the application of SIT for FCM, its role as a pivotal area-wide population suppression tool is set to expand, contributing significantly to global food production and security. 🍌



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