

September 21, 2017

World a-buzz with Australia's latest fruit fly findings

For decades, researchers around the world have refined the development of sterile male fruit flies to control wild populations of the pest. While the development of sterile male-only Queensland Fruit Fly (Qfly) for release is new to Australia, with the first strains still in development in a lab, Macquarie University has made a discovery that has international biological scientists in a spin.

As part of the \$45 million [SITPlus partnership](#), researchers have discovered how to significantly increase production and reduce costs, to rear up to 100 million Qflies each week at a dedicated [facility in Port Augusta](#), South Australia.

Professor Phil Taylor said the key to accelerating the production of sterile flies was “asking the flies what nutrients they need and what they want to eat”.

“What we have done is apply principles from nutritional biology to develop and test multiple varieties of a gel-based substance, filled with foods the flies love, plus vitamins and minerals,” he said.

“By understanding the real biological needs of developing larvae we can tailor a diet to closely match those needs, and this has resulted in a tripling of production, more uniform development, and higher quality flies, all at lower cost, compared to using traditional fly diets.”

“This discovery is incredibly valuable. We have received calls from some of the largest fruit fly rearing facilities in the world asking about our research findings as this could have major benefits for the world's production of sterile flies and other insects.”

Professor Taylor said the globe's leading sterile insect technique research centres and fruit fly factories are keenly following the research to help inform their combined production of billions of factory-reared sterile flies each week.

Hort Innovation chief executive John Lloyd said the discovery presents a game changer for fruit fly management.

“This research is a major win for Australian Queensland Fruit Fly management,” he said. “Qfly is a serious pest in some of our key growing regions, affecting the quality of the fruit and vegetables we eat and costing the sector \$300 million in lost markets.

“The next step to apply this technique at the new, state-of-the-art sterile Qfly rearing facility in Port Augusta, which is on track to begin fly release logistics testing in sample areas by 2019.”

Currently, scientists around the country are working collaboratively across a host of Qfly-focussed projects as part of the SITPlus partnership. Areas of focus include everything from developing the most handsome, irresistible sterile male Qfly to attract females to preparing communities for the future release of the flies.

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