

Aerial and road release distribution of sterile *Ceratitis capitata* in South Australia

Jorgiane Benevenuto Parish¹, Humayra Akter¹, James Camac², Tom Kompas² & Katharina Merkel¹

¹South Australian Research and Development Institute, Adelaide, SA 5000;

²Centre of Excellence for Biosecurity Risk Analysis, School of BioSciences, The University of Melbourne, VIC 3010

Introduction

- The release of sterile insects (SIT) is implemented as a management tool for pest fruit flies worldwide
- Release strategies include static spot releases, releases along roads with vehicles and aerial releases
- The aim of this study is to determine qualitative and quantitative differences between road and aerial releases

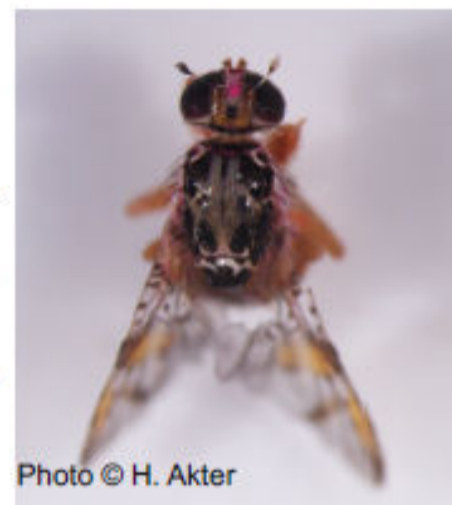
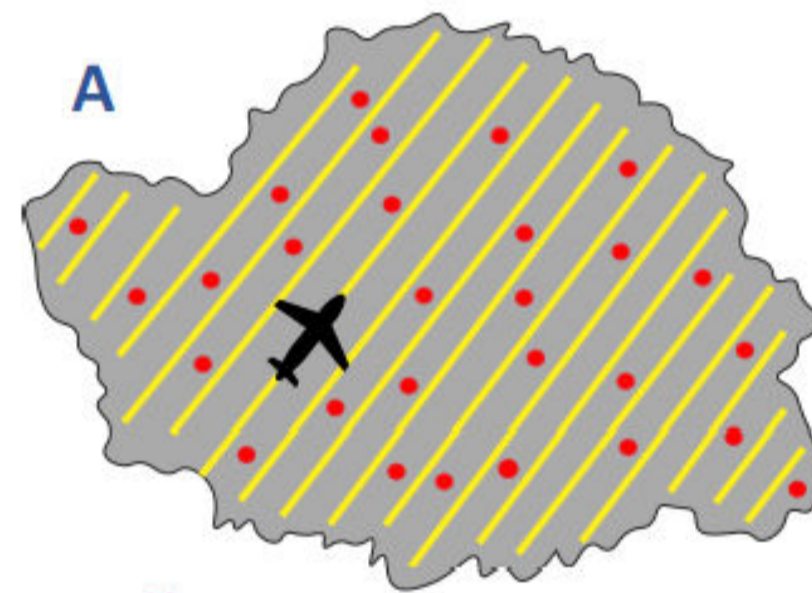


Photo © H. Akter

Sterile adult Medfly

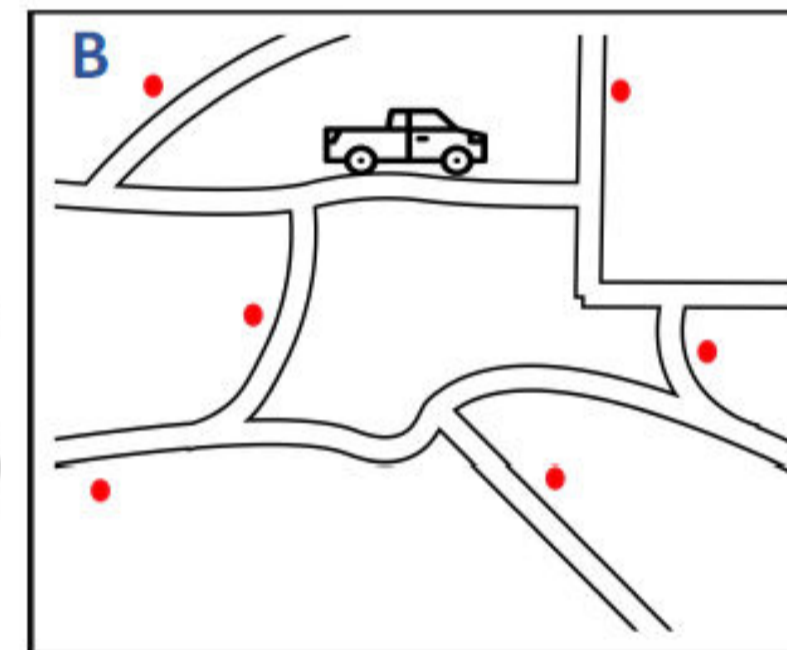
Methods

- Aerial and road release of sterile Medfly
- Assessment of sterile Medfly found in traps
- Model trap counts as a function of: (1) release method; (2) distance from release path, (3) weather patterns; and (4) terrain complexity



● Trap

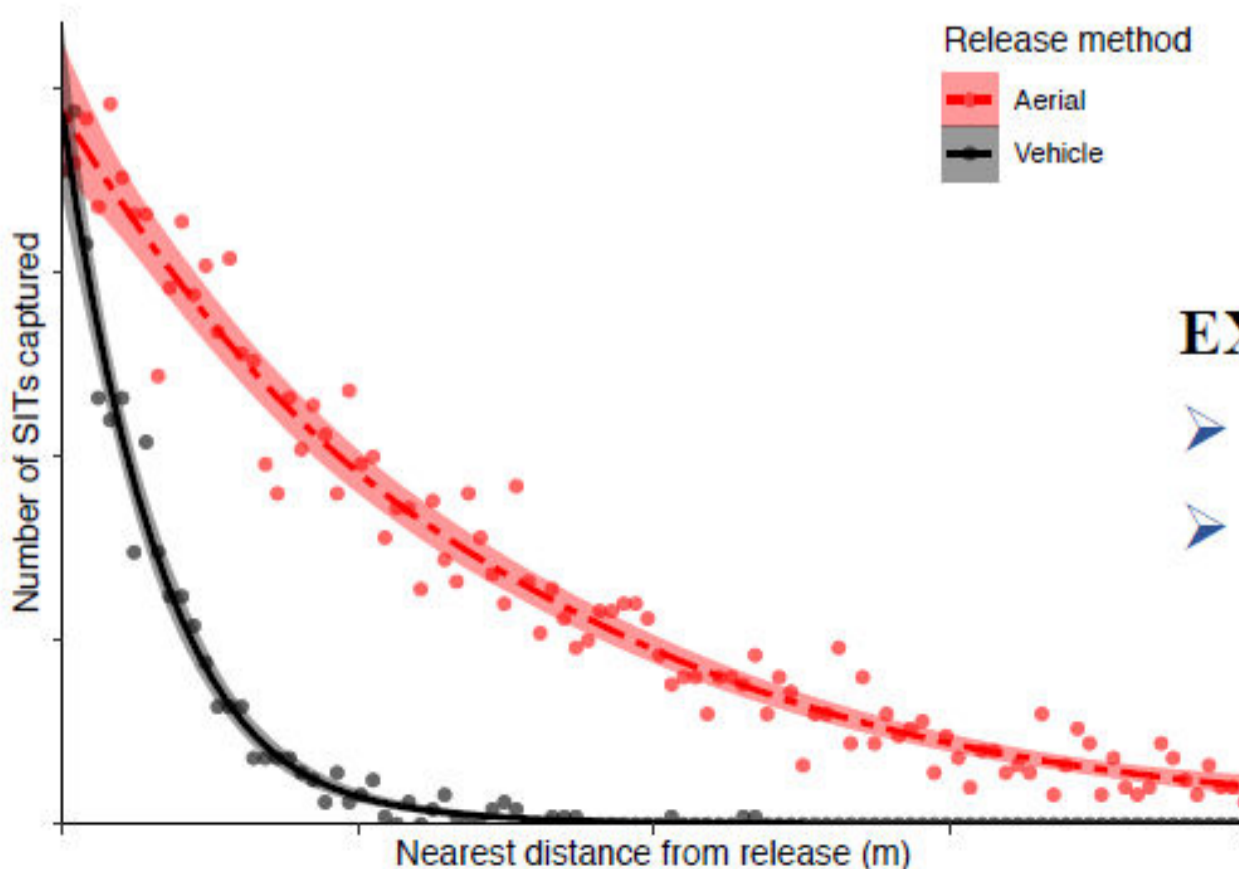
Map of (A) aerial and (B) road release of sterile Medfly on the Metropolitan area



Medfly traps placed in outbreak areas

Assessment of sterile Medfly under blue light

Expected Results



Release method
■ Aerial
■ Vehicle

Figure 1. Simulated example of trap captures of Medfly with increasing distance from release points. *Data still being compiled for actual analysis.*

EXPECTATIONS

- Aerial release = Greater geographic coverage
- Coverage will also be mediated by:
 - wind direction & speed
 - terrain complexity

Conclusions

- We will compare aerial and road release data of Medfly to generate models that can support decisions on release strategies during fruit fly response programs

Acknowledgments