Queensland fruit fly mass production for the Sterile Insect Technique: where it starts and finishes
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1. Colony establishment & maintenance
Adult stock colony is established using pupae collected from wild flies
Once the wild colony is successfully established in the lab, it is continually maintained using sugar, water, and yeast protein as part of the adult fly diet

2. Egg collection & larval diet
Egging cups are placed in cages on Mondays and eggs collected every Tuesday
Larval diet comprises lucerne chaff, sugar, yeast protein and preservatives on Mondays and/or Tuesdays
Eggs are placed on the diet trays on Tuesdays

3. Egg hatching & larval collection
Eggs are incubated inside the larval towers in a 26°C & 80% RH room until Friday
Larvae eclose on Thursday/Friday
Larvae start jumping out of the diet trays and into the larval collection trays the following Monday

4. Fly Pupation, Dying and Packaging
Larvae are collected (Monday-Thursday) and stored in trays to allow pupation
Pupae are dyed each Monday
The dyed pupae are placed in plastic bags and into OJ boxes and are ready for transportation to Australian Nuclear Science and Technology Organisation (ANSTO) for irradiation

5. Pupae irradiation & shipment
Pupae are irradiated at ANSTO every Tuesday at 60-65Gy using a colbat-60 source
Pupae are then transported to various stakeholders within Australia on Tuesday afternoon

6. Quality Assurance/Control tests
Various key quality control (QC) tests using samples of the dispatched pupae are undertaken weekly in the laboratory