

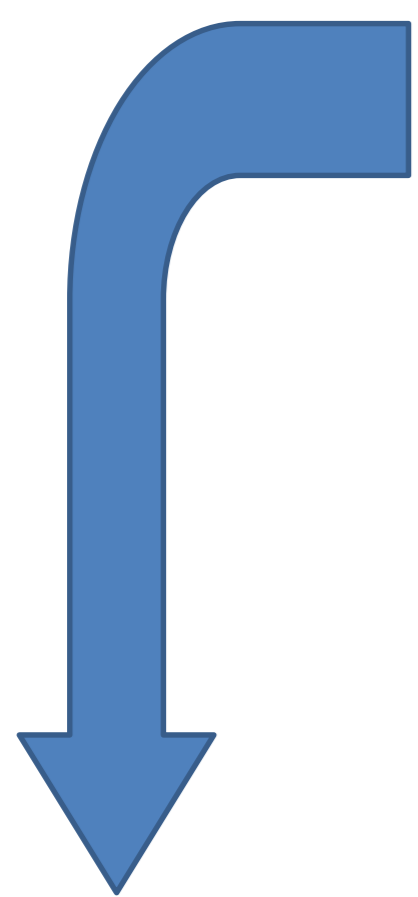
Queensland fruit fly mass production for the Sterile Insect Technique: where it starts and finishes

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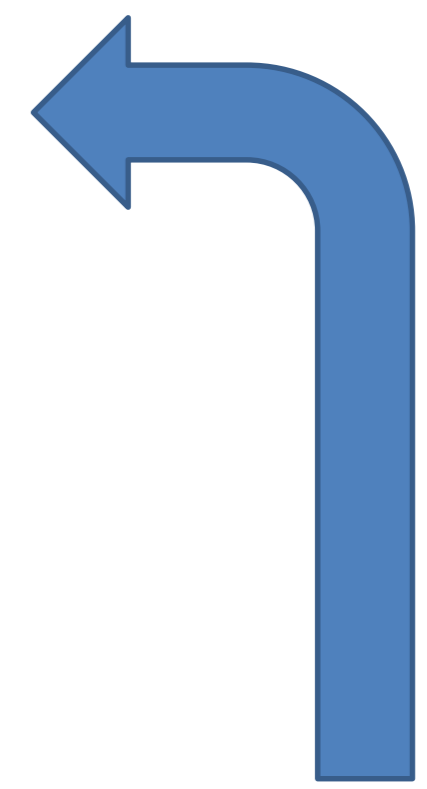
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1. Colony establishment & maintenance

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

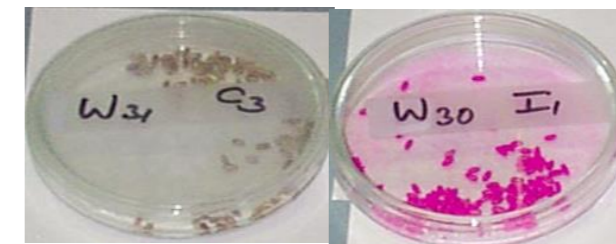
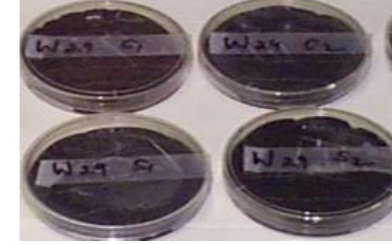
Larval diet comprises lucerne chaff, sugar, yeast protein and preservatives on Mondays and/or Tuesdays

Eggs are placed on the diet trays on Tuesdays

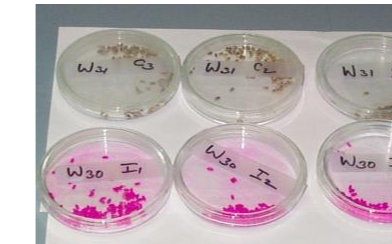


% egg hatch

pupal weight



% adult emergence & deformity



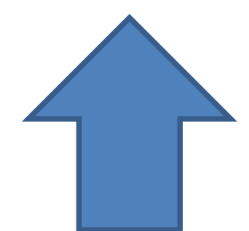
% flight ability

% fly sterility



6. Quality Assurance/Control tests

Various key quality control (QC) tests using samples of the dispatched pupae are undertaken weekly in the laboratory



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



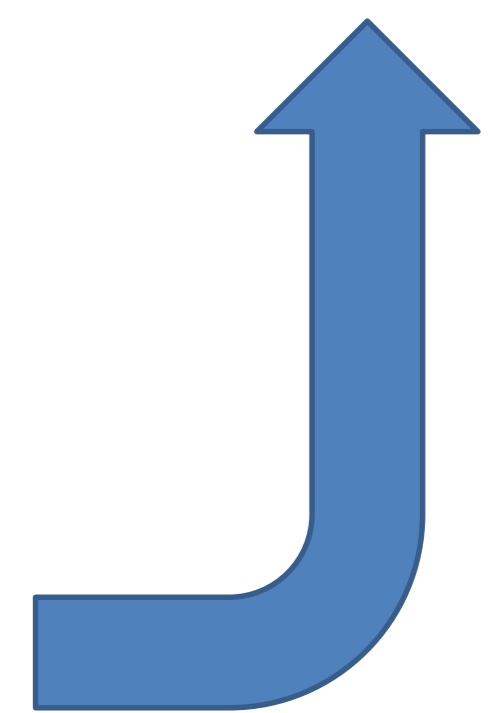
5 OJ boxes inside each carton placed in the irradiation chamber



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



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



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