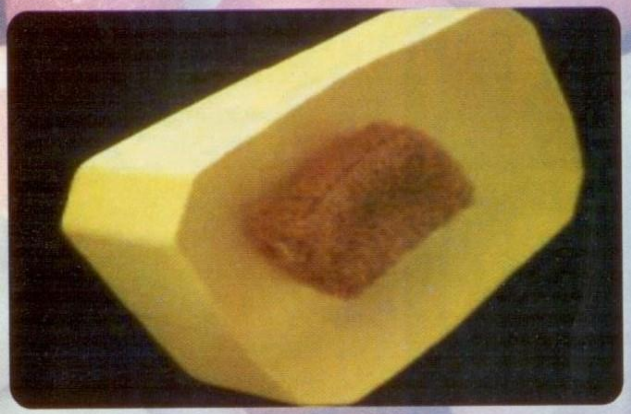
### 3. Killer blocks

Killer blocks (lure + insecticide) are placed at 10 metres
intervals to reduce the populations of male flies. Fruit flies are killed by the insecticide upon contact with killer blocks. Killer blocks are renewed every 4-5 months



### 4. Fruit bagging

Fruits can be protected from fruit fly attack by physically
covering them. This is done by covering fruit in breathable bags (plastics pierced with small holes, old newspapers, khakhi pockets and nylon screen material)

### 5. Sanitation

Fallen and infested fruits are collected from orchards/ backyards. They are then sealed in plastic bags and exposed to direct sunlight for a few hours to kill the maggots. Fruits can also be buried deeply (more than 30cm ).

### 6. Augmentation

To conserve natural enemies of fruit flies, an Augumentorium can be set up to collect fallen fruit. The Augumentorium should prevent emerged adult fruit flies from scaping but allow natural enemies like parasitoids to escape and flourish.

**HELP TO STOP THE SPREAD OF FRUIT FLIES**

Do not bring fruits and vegetables in your luggage from out of Zimbabwe. Fruits and vegetables may harbour exotic fruit flies.

**For more information contact:**
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**MINISTRY OF AGRICULTURE, MECHANIZATION AND IRRIGATION DEVELOPMENT**
**DEPARTMENT OF RESEARCH & SPECIALIST SERVICES (DR&SS**

RESEARCH SERVICES DIVISION


# FRUIT FLY CONTROL

DEPARTMENT OF RESEARCH AND SPECIALIST SERVICES
R&SS
ZIMBABWE

**CONTROL FRUIT FLIES IN YOUR ORCHARDS AND BACKYARDS AND OBTAIN HEALTHY FRUITS AND VEGETABLES**

## FRUIT FLY PROBLEM

*Citrus damaged by fruit fly maggots*

Fruit flies are important pests . They cause significant losses in fruit and vegetable production. Restrictions from importing countries to accept fruits from fruit fly established areas limit trade in fruits and vegetables. Important hosts include mango, citrus, peach, apple, guava, cucurbits and many others. Fruits may be attacked at a young stage. Infested fruits do not develop well and may drop prematurely. Fruit with fruit fly maggots become undesirable to eat.

### Economically important fruit flies

*African invader fly*
*Bactrocera invadens*

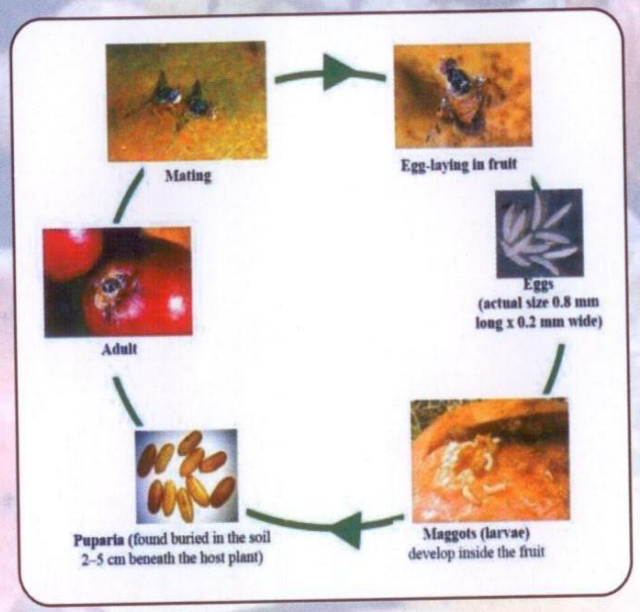
*Melon Fly*
*Bactrocera cucurbitae*

*Natal fruit fly*
*Ceratitis rosa*

## LIFE CYCLE OF A FRUIT FLY

**Egg Stage**
Female adults deposit their eggs inside the fruits. Eggs hatch within 1-2 days.

**Larval Stage**
Maggots undergo 3 larval stages in about 10-15 days and damage fruits by feeding on the fruit pulp




**Pupal Stage**
Maggots leave fruit and burrow into the soil to form pupae. This stage lasts for about 9 days during which the insect develops into an adult.

**Adult Stage**
Adults emerge from the pupae after about 9 days

## CONTROL METHODS

The National Plant Protection Organisation recommends a sustainable and environmentally safe strategy to reduce fruit fly populations in orchards, gardens and backyards. Follow these control methods regularly and harvest good fruits.

**1.Mass trapping**
Mass trapping of fruit fly males is done through the use of plastic bottles or containers with holes. Traps are baited with fruit fly lures and insecticides and then placed in orchards or backyards

**2. Protein bait application**
Treat your fruit trees every 7 days with a bait mixture (protein + insecticide) which attracts both males and females. Adults are killed by the insecticide when feeding. Start treatment from fruit set till harvest. Apply bait under leaves at 5 metre intervals.