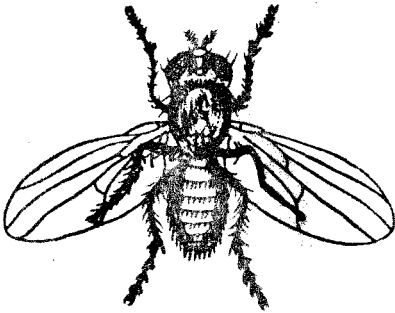


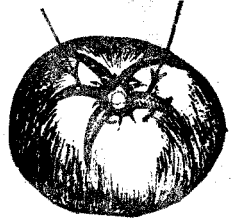
# STOP DROSOPHILA

You can help New Jersey's tomato industry by destroying *Drosophila* breeding material.

Dros Bible III, M157a



Eggs and developing larvae  
from this fly occur on fruit.



ENTOMOLOGICAL SOCIETY OF AMERICA  
DROSOPHILA SOCIETY

## WHAT IS THE PROBLEM?

This harmless-appearing little fly, *Drosophila melanogaster*, also called sourfly, vinegar gnat, or fruitfly, is a serious threat to our multi-million dollar processing tomato industry in New Jersey. For example, tomatoes worth approximately \$2 million in 1954 were not canned because of *Drosophila* egg shells and other insect parts that could not be washed from the otherwise marketable fruit.

## WHAT CAN WE DO TO SOLVE THE PROBLEM?

What can be done to prevent this loss to New Jersey farm income and to the general economy of our State? Scientists have surveyed the problem critically for years and have some good answers.

A basic approach to solving this problem is to prevent or delay the increase in populations of *Drosophila* by reducing to a minimum the amount of food and breeding material available. We must deny *Drosophila* the vegetable matter, mostly decaying fruits and vegetables, that is necessary for its development.

## HOW CAN WE DO IT?

### Source of Flies

Roadside markets

Old melon fields

Tomato cull piles

Sweet potato storages

Apple and peach drops

### How to Control Flies

Screen produce. Spray premises with a residual spray of DDT, lindane, and malathion. (Do not spray produce.) Clean up fruit and vegetable debris, and burn, bury, or remove it to grounds away from tomato fields. Spray debris with DDT, dieldrin, or other residual chemical.

Practice sanitary measures. Plow topsoil under when harvest is complete.

Do not allow cull piles to accumulate. Dispose of them in the same manner as described above. Spray with DDT, dieldrin, or other residual material.

Dispose of culls as described above. Spray sweet potatoes in storage with a pyrethrin-type fly spray.

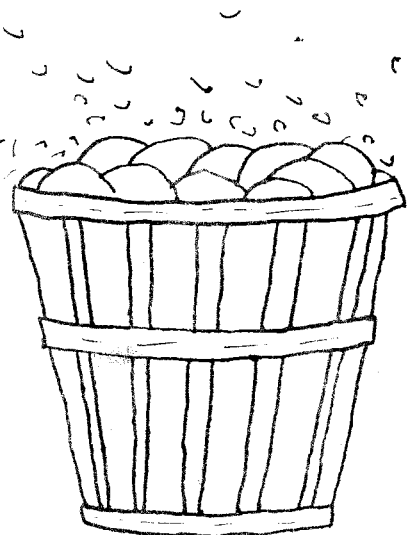
Feed them to animals. Remove and dispose of them as described above.

In addition to these practices, growers can follow regular insecticide and fungicide spray schedules and dip baskets in residual insecticides to help kill *Drosophila*.

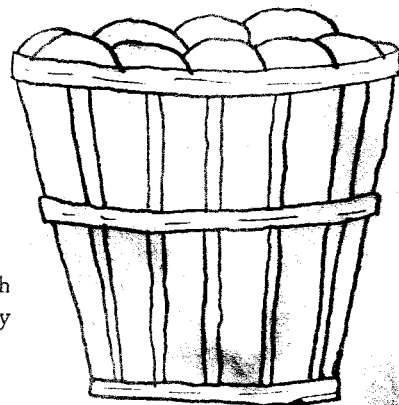
If high populations of the *Drosophila* fly can be delayed for even one week, an additional \$500,000 worth of New Jersey tomatoes can be processed. Everyone stands to gain if we STOP DROSOPHILA!

# STOP DROSOPHILA

You can help New Jersey's tomato industry by dipping tomato baskets in a residual insecticide.



Untreated basket with many eggs and maggots on each fruit – unfit to process.



Dipped basket with clean fruit – ready for processing.

## GROWERS DO THIS

1. Obtain a 55-gallon drum or similar container.
2. Use either DDT or malathion for the insecticide at these rates:

Amount of mix to make	DDT (25% emulsion)	Malathion (5 pounds actual per gal. emulsion concentrate)
10 gallons	1 gallon	2 pints
40 gallons	4 gallons	6 pints
100 gallons	10 gallons	2 gallons

3. Keep level of mix high enough to cover all baskets thoroughly.
4. Baskets may be dried on a surface, such as a canvas or a rack, and the excess mix that drains off can be reclaimed and used again.
5. Wear rubber gloves and protective clothing while dipping baskets. Avoid getting wet with this mixture.
6. Treat baskets every two weeks for best results.
7. You can also help stop *Drosophila* by:
  - a. Following a regular insecticide spray schedule.
  - b. Not allowing loads of tomatoes to sit overnight in fields.
  - c. By eliminating as many *Drosophila* breeding spots as possible.

For more details, consult Extension Bulletin 266.

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