

# *Drosophila melanogaster*

## Care Guide



### Introduction

*Drosophila melanogaster* are commonly used to teach genetics as a generation requires only 10–20 days from egg to mature adult. *Drosophila* are also prey for small lizards or venus flytraps. Plus they are easy to care for.

### Safety Precautions

*Wash hands thoroughly with soap and water before leaving the laboratory. Please follow all laboratory safety guidelines.*

### Culturing and Media

*Drosophila* are shipped in small vials. It is not uncommon for all adult flies to die during shipment. Larvae, however, are very hardy during shipment and serve as the main source of experimental flies. Remove all adult flies and place in appropriate storage location. Adult flies should emerge from pupa in about one week.

*Drosophila* can be raised on a variety of media. In nature, fermenting (decaying) fruits make up the traditional diet of fruit flies, hence their name. In laboratory experiments, prepared dry media is preferred. Preparing culture vials is as simple as:

1. Place 10 mL of dry media in a culture vial.
2. Add 10 mL of water to the media.
3. Gently agitate the tube from side to side to mix the media and allow it to gel.
4. Once the media has set (1–2 minutes) add flies.
5. *Optional:* Add a short piece of plastic netting to provide a surface for the larvae to pupate.

Store flies in dim light or darkness at temperatures between 21–24 °C (70–76 °F). Cultures can be maintained by transferring adult flies to fresh media. Varying the temperature will speed up or slow down the life cycle of the flies. Higher temperatures speed up the life cycle. Higher temperatures also promote bacterial and fungal growth in the culture vials. If virgins are needed for genetics testing, collect every 8 hours if culturing at higher temperatures or every 12 hours for lower temperatures.

Subculturing *Drosophila* is ideal once a healthy population of flies is established. Female flies can begin laying eggs two days after emerging from their pupa cases and lay up to 500 eggs in a 10 day period. To ensure accuracy and viability of experimental crosses, female adult flies should be collected and isolated for 48 hours to ensure they are virgins. If larvae or pupa appear in the vial of supposed female *Drosophila*, the culture should not be used in the experiment as at least one of the females is not a virgin.

### Tips

- Additional information regarding culturing, anesthetizing, examining, and crossing flies is available in the *Flinn Drosophila Guide*, FB1440.
- All the basic materials needed for conducting experiments using *Drosophila* are available from Flinn Scientific in the *Drosophila Laboratory Kit*, FB0751. Live materials must be purchased separately.
- If mold becomes a problem, use methyl paraben when preparing future media. The recommended amount is 1 g of methyl paraben per 1 L of media. Adding more than the recommended amount may result in sterile flies.

### Disposal

Please consult your current *Flinn Scientific Catalog/Reference Manual* for general guidelines and specific procedures governing the disposal of laboratory waste. The used vials, foam plugs, and netting may be sterilized and stored for future use or discarded according to Flinn Suggested Disposal Method #26a. *Drosophila* should be euthanized prior to disposal. No lab organisms should be released into the wild.

Materials needed to culture *Drosophila melanogaster* are available from Flinn Scientific, Inc.

Catalog No.	Description
AB1420	<i>Drosophila</i> Culture Media, to make 1 L
AB1421	<i>Drosophila</i> Culture Media, to make 4 L
FB1438	Lull-A-Fly™ Kit
AB1392	Plugs, Foam, White
AB1425	Vial Netting
AB1423	Vials, <i>Drosophila</i> Culture
LM1115	Wild-type <i>Drosophila</i> (+)

Consult your *Flinn Scientific Catalog/Reference Manual* for current prices.