

Flightless Fruit Flies (*Drosophila spp.*)

CARE INSTRUCTIONS

Includes:

- A **starter colony**: one 32oz deli cup with LIVE flies, a paste-like food source (the fly diet) in the bottom, and substrate for them to walk on. This colony is ready to go: it will last 3-4 weeks.
- The **"fly refresher"**: one 32 oz deli cup with a lid, instructions, extra substrate for them to walk on, and then a dry powder which, when added to hot water, will become the food source. This allows the buyer to make a second habitat for the flies around the time that your first colony has run out of food. The remaining flies from your other colony can then be dumped into this one, beginning the 3-4 week process again.



Fruit flies make excellent feeders for small species such as mantis, dart frogs, and small arachnids. They also make a great little life cycle project all on their own; they undergo a complete metamorphosis in their cup, just like a butterfly.

When you get your flies:

Place your living colony of starter flies somewhere secure and out of direct sunlight: they are ready to go; you don't need to do anything except keep them safe and out of direct sunlight. Regular room temperature is fine for flies.

The warmer you keep your flies, the quicker they reproduce: the cooler they are, the slower they go. This also affects how long the starter colony will last: warmer colonies, such as those kept at 22 Celsius or higher, expire faster. If you have a mantis ootheca, it's best to keep the flies on the cooler side until your ootheca hatches, to slow their development and help the colony last longer. Never put them in a fridge or in complete darkness.

Life cycle of a fly: This starter colony has a date on the outside. About 10-14 days after that date, you will begin to see larger maggots crawling along the insides of the rearing deli cup and in the top layer of mushy food at the bottom: there will be a lot of activity and movement. Your flies will pupate around the insides of the cup, in little oval cocoons that look like seeds or grain. Adult flies hatch out of these and will repeat the cycle: your fly population will increase predictably based on temperature. Expect your colony to expire in about 3-4 weeks as they will begin to run out of food.

At this point, you will need to use your refresher kit to save the living flies by moving them into a new habitat. This gives your mantis (if you have them) a long window of time, as they normally do not coordinate well with the flies. With proper use of these two kit parts, you will have flies for about 2 months.

#Protip: If you want to make your fly colonies last even longer, use only half the powder food and approx. half the amount of water. Reserve the extra food, and when your original colony dies, clean out that container and use it to make a third batch. This could give you 3 batches of flies instead of 2.

Instructions for making a second fruit fly culture:

-Empty your little cup of powder into the large deli. SLOWLY add about 2/3 a cup of boiling water to the powder, mixing well. You want a thick texture, like cake batter, so that it forms peaks. Go slowly: you might not need the entire 2/3 cup of water! You don't want it too watery.

-**Let it cool completely**, which may take several hours. Once completely cool, add the extra material as a surface for the flies to walk on.

-Add the remaining live flies from your first culture: tap them all in.

Voila! A brand new fly culture ready to go. A fruit fly culture takes about 10-14 days to mature enough to begin doubling in numbers.

Flightless Fruit Flies in captivity:

Your flies are *Drosophila melanogaster*, the common fruit fly, and they are flightless: they have been selected for a genetic trait where the wing muscles do not develop, so although they have wings, they cannot fly.

Feeding flies to your critters:

The flies can run fast but are clumsy. They typically run upwards if they can. To feed to your critters, start by gently tapping the deli against a surface like a table, until all the flies have fallen to the bottom: now, you can now quickly remove the lid without them escaping. Continue to tap the fly container as you tilt it into the enclosure and tap some flies out; doing so will cause them to be unsteady and help you prevent their escape.

Never feed out all your flies at once. There always needs to be living adult flies in the culture, to continue the reproductive cycle.

If you are feeding a large number of flies at once, one suggestion for bulk feeding would be punching a small hole in the lid (no bigger than a paper hole punch) and covering it with a piece of paper secured well with some tape. Then all you have to do is peel that back and shake the flies out quickly— but do make sure you can still securely close it! Or you will have a mass breakout on your hands.

As long as you get your second culture going at around the same time that the old one dies, you should have at least 2 months of fruit flies. The sooner you make that second culture, the shorter this time period becomes.

Butterfly Wings N' Wishes respectfully acknowledges that we operate on Treaty 6 territory, a traditional gathering place for diverse Indigenous peoples whose histories, languages, and cultures continue to influence our business, our way of life, and our community.

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43 Grand Meadow Crescent, Edmonton, AB T6L 1A3 780-462-1839 www.butterflyab.ca