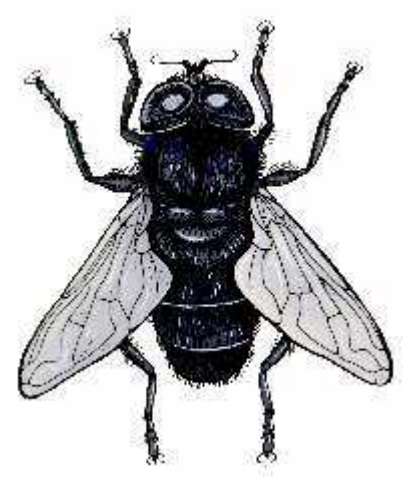
Breeding the Bushfly (*Musca vetutissima* and similar species) as a food source for birds, reptiles and frogs



The bushfly is emerging as an important food source for captive animals due to its relative low cost of production and variable feeding options. It may be fed as a maggot (fly larvae, gentle), a live pupae, a frozen pupae or as a fly.

This species is chosen due to its exceptional breeding rate, fast reproductive cycle and the fact it is a secondary strike species. The latter term means that it does not require a “meat” based diet for it’s development so it will readily accept artificial growth substrates as long as it meets the requirements of moisture and nutrition.

It is not difficult to breed and the offensive odours we normally associate with maggots is limited as rotting meat is not used in their production at all.

The Basic Setup

The basic requirement for breeding is a fly proof box. This can be made of any material although timber boxes maintain the most stable temperatures in my experience. For a single colony a box of 40 cm high x 30 cm wide x 30 cm deep is adequate. Extra height will keep the flies away from the door when it is opened.. The door should be positioned at the bottom front and be of sufficient size to pass the substrate container through comfortably. A lightbulb should be mounted somewhere near the top back wall. This position keeps the flies up near the light and maintains heat without drying out the laying container. I attached my lights to a basic probe thermostat set at 28 C (otherwise maintain this temperature by choosing an appropriate sized bulb for the box and the prevailing air temp). In winter, I will often place a towel over the fly screen front of the box to retain heat.

In the bottom of the box sits three containers – the egg laying box, a box of “ready to hatch” flies (a small quantity of maggots from every batch should be put back in to maintain fly numbers) and a bowl of sugar or sugar cubes as a food source for the flies. Some people place a sponge in a water bowl in for moisture or spray the flies daily but I have never found this necessary.

My basic fly box containing two separate colonies

On the floor sits the egg laying container, maggot/fly container and sugar bowl.

H**ow do we breed flys??**

Breeding flies is not hard; after all they do breed like flies. The art is in the egg laying mix and trial and error will get it right eventually (it can be different for every setup depending on humidity, temperature and substrate ingredients.

My basic procedure is as follows:

1. Firstly obtain a quantity of flies from another breeder or **live** pupae from an insect supply company. 500 flies is a good starting point. The basic rule is the more flies, the more fly eggs laid, the more maggots produced. In addition, insufficient maggots will not turn the mix over adequately allowing it to dry out or spoil and go mouldy.
2. Once the flies have emerged you are ready to start. Always ensure adequate sugar stocks or your flies will be dropping like flies after 24 hours with no food.
3. The ingredients for the egg laying mix are as follows :

Bran or Mill Run (available from your produce agent or supermarket)

Water

Milk powder (as a protein source) (available from your produce agent or supermarket) – once you are well established, the cheapest milk powder is the large bags of calf rearing powder)

The milk powder I use.

4. The approximate mix I make is 4 parts Mill Run (I used this by preference as it is better nutritionally and doesn't give me hayfever), 1 part water, 1 part milk powder. The end

product should be a moist crumbly mix, sort of like wet crumbled cake. Trial and error is the only way to get it right.

5. Place a container (I used **deep** takeaway containers) of egg laying mix on the fly box floor. The flies should swarm it pretty quickly.
6. Two options from here:

   a) Wait 24 hours. Put in another container. Stir the first one but leave it in place for another 24 -48 hours then removed it for harvesting..Replace a new container every 24 hours to ensure a continuous supply.

   b) Wait 24 hours. Remove the first container and replace it with a fresh one. Place the first container somewhere warm to develop until harvest time (you may not see maggots yet). This method is a little more time consuming but the yield is better as the flies can only lay all of their eggs in one tray rather than in all trays (if others are left behind) and all maggots are roughly the same size at harvest.

Maggots should be visible after 24 -36 hours.

7. Harvesting is a simple matter of tipping the contents into a coarse sieve to remove the big chunks (the surface often develops a hard film although this can be reduced with stirring). I use a yabby sieve from a fishing shop. The mix should be of the consistency of slightly moist dark coloured sawdust at harvest. If its sloppy then you are early , the mix was too wet or you have insufficient maggots produced to utilise all the medium supplied. If you want maggots 2-3 days is average. If you want pupae, add two days. In cold weather it may be a little slower.
8. Store the sieved product in an ice cream bucket with no lid in the fridge. Maggots will store for a week or so and pupae for 4 weeks +.

Happy Maggot-ing.