

House Fly

House flies can be surprisingly easy and smell free to culture for a food source. Flies are set up for breeding as follows:

We use a 5 gallon bucket with a lid. Drill 5 or 6 4 inch holes in the lid to allow for air flow. In the side of the bucket near the bottom drill another 4 inch hole. This will serve as the entry source into the bucket to change out food, water, and whatever else. Put a 1 foot long piece of 4 inch PVC pipe into the bottom hole and attach a "sleeve" of some type to the pipe inside the bucket. It can be secured by using a long zip tie. We are currently using a snake bag with the end cut out but you can use something like pantyhose or a shirt sleeve. This cloth tube



will be inside of the pipe and will allow you to reach into the bucket without all the flies escaping.

Cut a piece of fiber glass screening that is large enough to cover the entire top of the bucket. Place the lid over this and push onto the bucket. This shouldn't have be removed again until you have to clean the bucket.

Food is supplied to the flies in a small cup. Make sure the cup is small enough to fit into the tube to make replacing it easier. We offer a half and half mixture of sugar and powdered milk and replace this each day to maintain cleanliness. Water is offered in a similar dish with coconut fiber to prevent them from drowning. Simply put about an inch of coconut fiber in the dish and moisten it until it starts to become visibly wet.

Adult flies are required for breeding. These can be obtained by morphing out maggots that can be purchased from a place such as GrubCo. They should be fed and watered as instructed previously for several days before you try to breed them.

In order to breed the flies a source of rotting meat is necessary to get them to lay their eggs. A small piece of beef liver about 1 inch by 1 inch is used. Place this in their water dish to get them to lay eggs. Eggs are usually laid in small white clumps and are easily visible. They don't always lay them on the liver and will sometimes lay them on the dish. The dish and substrate are changed every day to prevent maggots from hatching in the water dish. Liver can be offered whenever you want to start a new culture.

The water bowl can be dumped daily into a tall deli cup including the coconut fiber, water, and liver once egg production begins. On top of this put a handful of dry dog food and sprinkle powdered milk on top. After about a day you will see tiny maggots in the cups. Food

should be replaced as it is consumed. Do not offer too much food as this will mold if they can consume it fast enough. It seems that they really like the powdered milk and this is also replenished each day. The cup shouldn't dry out so keep it moist by adding a little water as it dries.

They can be fed out at any size you wish or can be hatched out into flies. An advantage to using finely ground coconut fiber is that it can be rinsed out if you have $1/8^{\text{th}}$ or $1/4$ inch screening. This is important because when they turn into pupae you can easily separate them from the substrate by straining them under running water. After the pupae are sorted out lay them out on paper towel to dry and place them in a deli cup with a lightly moistened paper towel. After several days they should begin hatching out. Maggot can be separated from the substrate in a similar manner if they are large enough to not fit through your strainer. If they are small another method that works fairly well is soaking the substrate in the cup with water so they are forced to come up to the surface. After several minutes the maggots will begin climbing up the sides and can be scooped up with a spoon for feeding out.

The adult flies can be harvested in a couple ways. The first is by using carbon dioxide if you have access to it. One downfall is that this will sometimes kill some of them. Another method is to put them in the refrigerator. After they cool down they slow quite a bit and aren't as quick to fly away.

We have just begun culturing house flies and still have a lot to learn. It seems that if you don't replace their food they will turn into pupae at a much smaller size. The flies will also be much smaller when they hatch out which can be an advantage if you have smaller amphibians. It seems that the smaller flies don't have a very good ability to survive and won't breed as well as larger one.