

# **GROW YOUR OWN FOOD**

**Over time you will probably find it easier to grow a lot of your own food.**

**It is not a difficult undertaking, once you have the basic requirements in place.**

**This enables you to have a steady supply of food available for your charges with very little need to search it out.**

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## CULTIVATION AND BREEDING OF MEAL WORMS.

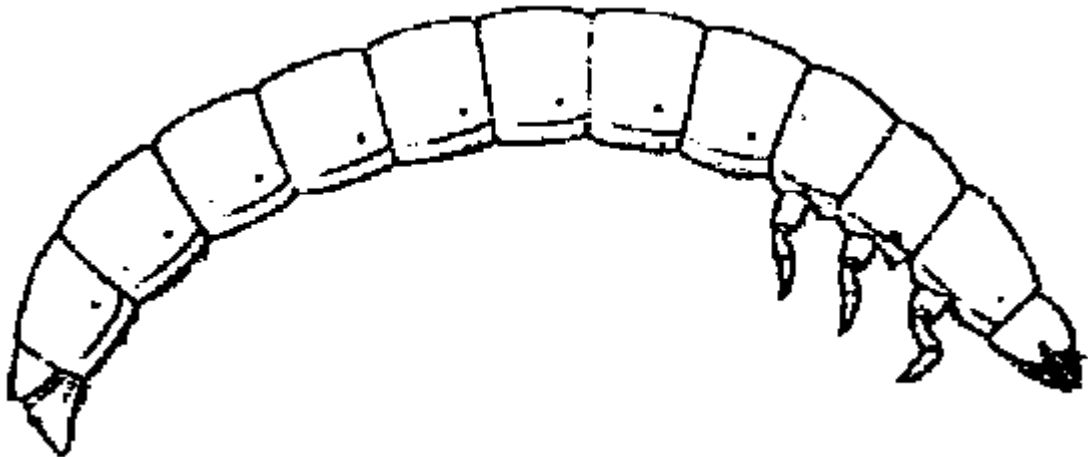
The mealworm is quite easy to cultivate and it appears in several stages. The worm itself, which is used to feed aviary birds, the pre-adult phase into which the larvae changes; then the adult beetle, which emerges from the pupae. The adult female beetle lays up to 300 eggs. After 20 days the eggs hatch into minute worms. The mealworms feed and grow constantly shedding their outer skin; they reach maturity in approximately 46 days. After going through the pupae stage the adult beetle is itself capable of laying eggs by day 63. Thus more than five generations of mealworms can be expected in a one-year period.

- ✿ For successful cultivation, mealworms require ventilation, warmth, darkness and food. A variety of containers can be used, for example plastic rubbish bins, wooden boxes or glass aquariums. A container 255mm long by 200mm wide to house can house approximately 225 beetles. The height of the facility should ideally be 150mm. The containers should have a tight-fitting lid to prevent mealworm escape, but it must also have several large holes covered with household flywire mesh to allow ventilation.
- ✿ The growing mix is made up of bran, a mixture of bran and pollard or even rolled oats, placed in the bottom of the container to a depth of 50-75mm. The constant temperature of 25 degrees C is recommended. Place on top of the brand a layer of Hessian or white paper towel. Don't use newspaper as it may contain certain inks, which can be toxic and although it does not affect the mealworms, can accumulate in the livers of birds eating the grubs.
- ✿ Place alternate layers of bran, pollard or rolled oats, paper or sacking up to near the top of the box. Eggs are laid by the adult beetle and are sticky; they will adhere to the paper or Hessian. To add moisture for the culture, add a slice of carrot, potato or banana skin to the top layer. This vegetable or fruit matter must be removed and replaced regularly to prevent the growth of mould in the medium. To obtain mealworms for feeding, place a damp paper towel or slice of bread on the top layer overnight. Mealworms will be ready to be harvested for the morning meal.
- ✿ To ensure a good supply you should have two or three containers of worms in operation at the one time and rotate the mealworm harvesting. This is achieved by regular separation of breeding beetles from their semi mature larvae and the pupae from fully developed mealworms into fresh containers.
- ✿ Long-term storage of mealworms is in the lowest section of your refrigerator. Remove some of the worms and place in a minimal quantity of bran. The containers (with air holes) are then placed in the fridge. Worms then become almost inactive, don't eat, and continually shed their skins. When required place in a new container with ample fresh bran and carrot. They will become immediately active and commence feeding. Within a few hours they can be fed to the birds.

**Always crush the heads of the mealworms before feeding to baby birds, the head of the worm can eat out the stomach lining if this is not done.**

## MEALWORMS (continued)

Mealworms: The mealworm is the larvae of the beetle *Tenebrio molitor*.



An adult mealworm to



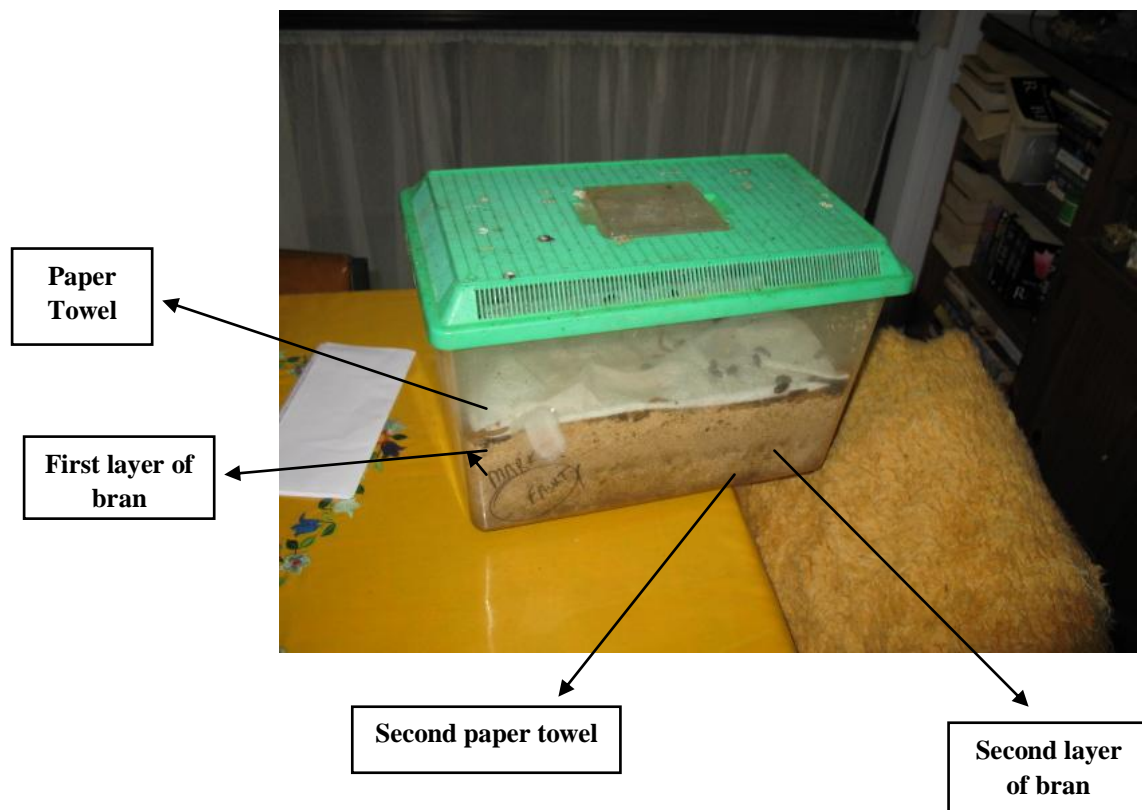
The pupae stage to



The beetle stage

## MEAL WORMS (continued)

This container is quite suitable. The top with all the perforations allows Plenty of air to circulate but keeps your charges safely inside and prevents raids by lizards or birds, depending on where you keep them. Skinks are very fond of them and have on occasions had to be removed from the container.



If you look carefully at the above you will see the level of the bran that the worms require to live in. There are actually two layers of bran and paper in this container.

At least every two to three months it is advisable to sift the worms and place into a new prepared mix. This is quite tedious and requires a large amount of time, but it is the best way you can keep your supplies healthy. The used bran can be thrown in the garden.

## **MEAL WORMS** (Continued)

As the mealworms need heat to breed and multiply, during the coldest of the winter months I have placed a container on a heating ad (lowest heat) to encourage them. In summer enough heat is available naturally.

The top of the container before the paper towel and food in added.



Below is the container with potato and carrot added which is then ultimately covered with paper towels.





## A WORM FARM



This is a commercially purchased worm farm. Note the tap on the front for cleaning out the worm castings. This is what you dilute by 10 to one to use on pot plants.



With the lid removed. Note the grass/horse droppings with the scraps placed on top. The worms are buried deep under the grass. Before replacing the top, cover the lot with damp newspaper or hessian.

A worm farm is an ideal way of supplying your meat eaters with both fresh food and a sample of how to catch live food. Place the worms in a large shallow container along with some of the grass cuttings. The top of the grass is salted with meal worms; this encourages the birds to dig around in the grass to see what else they can find. The worm farm is kept on my balcony easy to reach from the kitchen, which encourages me to use the scraps profitably.

## BUILDING A WORM FARM

It's easy to get a worm farm established. It's made up of levels of containers, (foam vegetable carriers can be utilised). Start with a solid base, and then add others with perforations which can be made using a drill. The aim is to build layers for the worms to move through. The base then collects the liquid, (which will drain from the top – this can be diluted at 10 to 1 for your pot plants – dual usage). Be careful where you set it up. A cool, dry space is fine, but not in the hot afternoon sun.

First layer is made up of newspaper. To this add a layer of grass clippings (wait until the heat disperses after mowing, usually a week or so). Aged moistened horse manure is ideal, but ensure that the horses have not been wormed for at least three months prior as the worming chemicals are poison to your worms. Worms are available in bulk from hardware stores or a general nursery. They often come in little bags with some bedding material, just spread that out.

Only feed a little bit at this stage as they are getting settled into the bedding material. Use lettuce, old bits of banana, anything that you've got that is usually disposed of as kitchen scraps. Add just enough newspaper or Hessian over the top to keep them moist, carpet can also be utilised. **Always make sure that the coverings are kept moist.** They will start to feed and after two weeks, add the next layer on top and then it is time to start serious feeding of all organic waste and the worms will travel up through the perforations, making them easy to harvest

Worms like moistened cardboard or newspaper, food scraps, and they love eggshells, but crunch them up a little. This gives them variety in their diet. Coffee grindings and tea leaves are absolutely fantastic and throw in all the kitchen scraps, the smaller the scraps the quicker they are digested. They also like dog hair and the contents of vacuum cleaning bags are good.

**Don't use citrus and onions (they are acidic and worms don't like them that much), and don't use tough grass cuttings, it takes the worms too long to chew through them.**

If the worm farm becomes too dry, add vegetable matter that rots down and some water to ensure it is not too dry. If little vinegar flies, maggots or slugs are present it means it's too acidic, so add some lime and ruffle it up a little, it also means a bit of meat has slipped in.

# A MAGGOT TRAP



## All you need is:

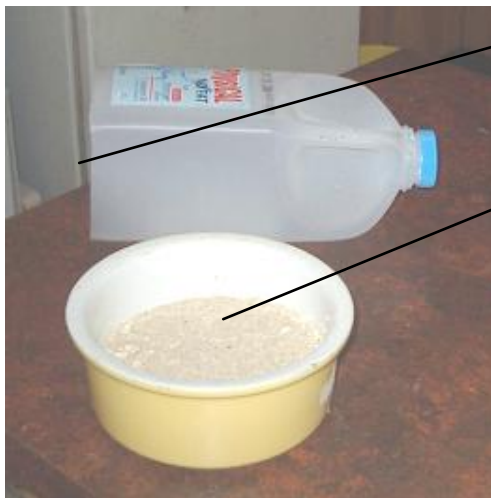
A 2 litre plastic container.

A tray or dish slightly bigger to stand the container in.

Some bran

A chicken neck or meat of any kind.

A strong piece of wire.



Cut the bottom off the container.

Stand in the tray containing the bran.

No, don't shudder and pull a face. They are good, nourishing food for anything from wrens, to noisy minors, to magpies. And this is a non-smelly, non-offensive way to breed them.



Make two holes in the top of the bottle to thread the wire through.

Feed the wire through the meat or the chicken neck so it is suspended above the bran.

The flies enter via the small top opening (this is the only way the smell can get out too) and lay their eggs in the meat. Within days maggots are dropping off into the bran. They gobble up the bran which not only cleanses their systems, but makes them big, plump and juicy. All ready to be harvested and served up just as you do a meal worm.



## THE PONDS



This pond is placed in the garden and is used as an overflow from the tank containing the feeder fish. On the top is what is commonly called duck weed. This is used to feed ducks, swans and any species of bird that frequents freshwater creeks and ponds they will appreciate having some of this to nibble on but only as an appetiser. Feeder fish inhabiting this tank keep the mosquito larvae at bay.

The weed grows quite quickly and means you always have a ready supply. The upstairs fish tank is filled with feeder fish (local pet shops to start), plus some of the weed. The feeder fish breed often and means you will have a supply on hand for Kingfishers, Bitterns etc. that are notoriously hard to feed.

If you salt the food container with live fish mixed in with the white bait it does not take them long to get the message and saves a lot of worry when you have an un-co-operative bird. It also saves a lot of handling of the species in question because having to force feed, continuously, is not always the best for your charges.



This is the upstairs pond that is populated with feeder fish. This is a very large container and is really a terrarium, but as it does not leak is ideal for growing your feeder fish.



## **OTHER FOOD AVAILABLE.**

You can also grow other suitable food for your charges. However as most of them are quite a lot more work, need constant monitoring of heat, and a lot of time, thought should be given to just buying them from your local pet shop. Listed below are those you can cultivate at home.

COCKROACHES

LOCUSTS (GRASSHOPPERS)

CRICKETS

FRUIT FLIES

RAT AND MOUSE COLONIES



If you hang a light in an aviary where nocturnal birds are being prepared for release this will bring in a lot of insects for them to chase up. Be sure to protect the bird from the heat of the bulb.

If you plant your aviary with a lot of plants you will find Aphids and Scale insects in abundance. You can add to your supply by holding an opened umbrella under shrubs in the garden, shake the branch vigorously and you will be amazed at the wealth of insects you can collect. Then funnel them off into a container and sprinkles over the leaves of plants in your aviary.

If you find the insects are too active for your charges to catch, place in the fridge for ½ an hour and this will slow them down.

A lot of insects can be frozen for later use. However, when defrosting remember to place them in water to rehydrate. Freezing is a good option if you have an abundant supply of insects.

Caterpillars can be collected and placed on the shrubs in your planted aviary (remember only smooth skinned – hairy caterpillars are off the menu).

Spiders can also be collected; these should be fed immediately as they don't keep well. If you do manage to get hold of some break off the branch and wrap the web around the twig loosely.