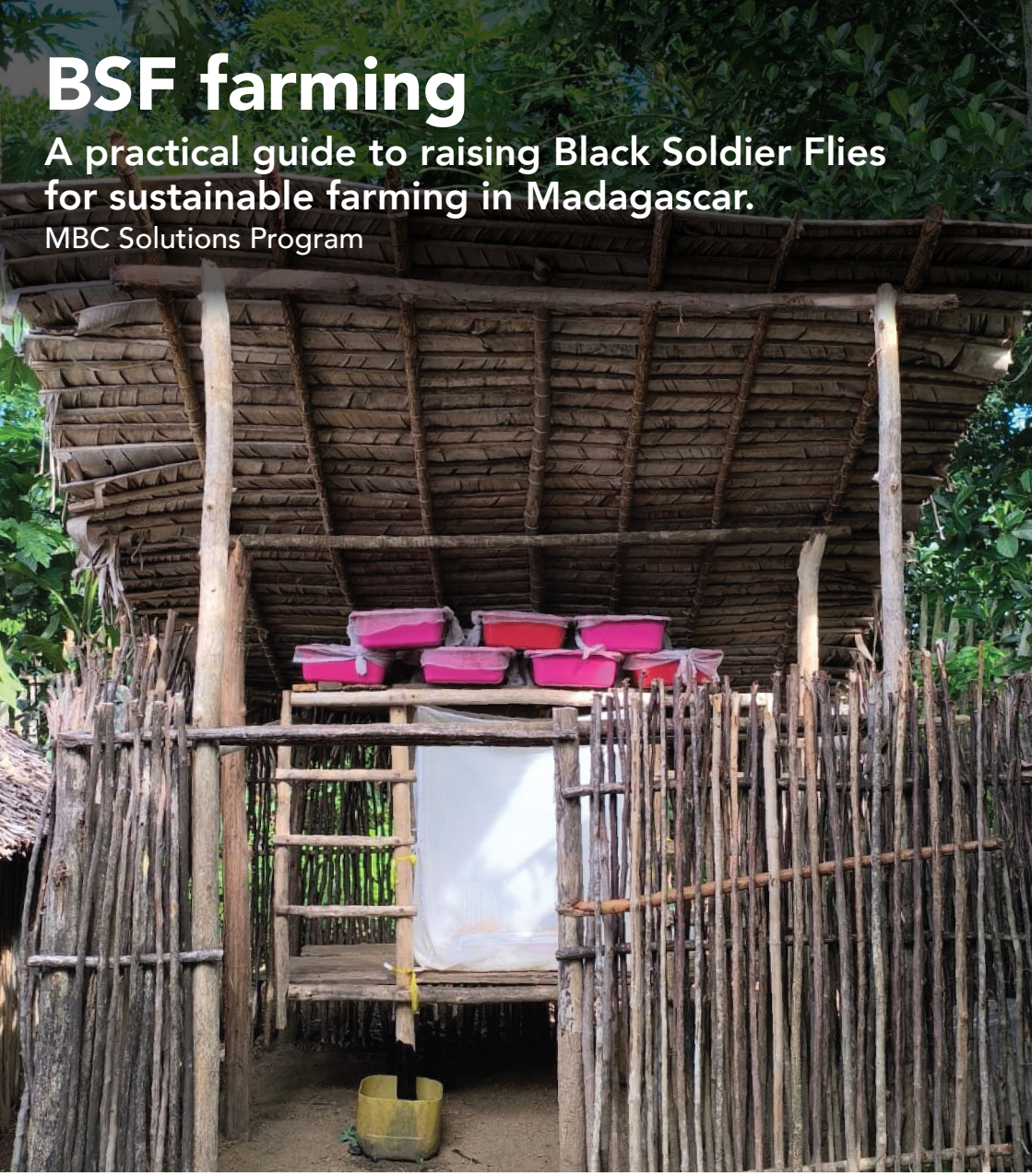
BSF farming

A practical guide to raising Black Soldier Flies for sustainable farming in Madagascar.

MBC Solutions Program



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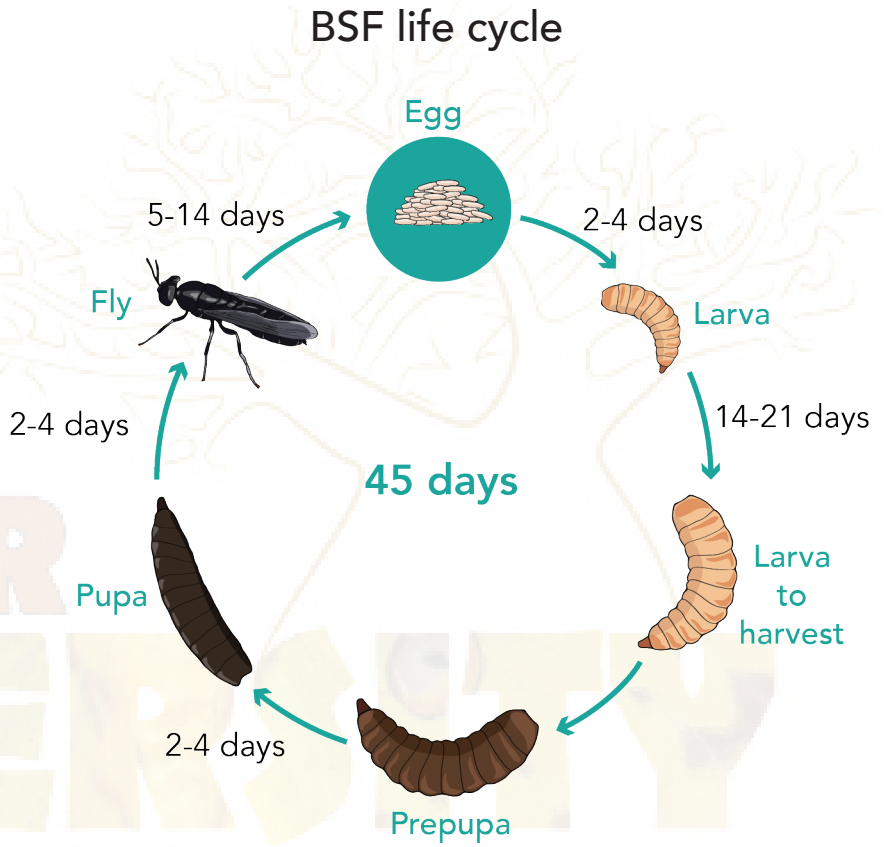
BSF: Black Soldier Fly
Hermetia illucens

The Black Soldier Fly ***BSF*** is a black fly species that comes from the Americas. It can also be found in Madagascar, especially in warm and humid areas. BSF helps recycle organic waste and its larvae are rich in nutrients, making them an excellent animal feed.



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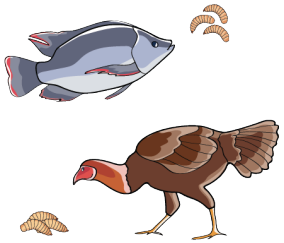
Benefits of BSF farming

•Nutritious animal feed:
Increases productivity in livestock such as chickens, pigs, and fish.



•High-quality organic fertilizer:
Improves soil health.
Boosts crop yields.

BSF farming is simple, low-cost, and highly beneficial for farmers.

BSF farming techniques

1- Eggs

•Keep your BSF breeding container in a warm, wellventilated place (27-35°).

Materials needed:
•Knife
•Mesh sieve
•Halves of jerry-cans/containers
•Thin cloth

Feed:
•Ripe or overripe fruits
•Cooked rice
•Vegetable scraps

Egg Hatching:
2-4 days

Note:
•You can cover the container with a thin cloth to keep other flies away.
•Check the eggs every **2 days.**

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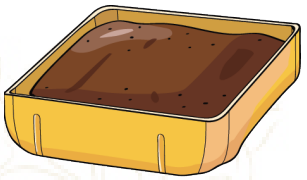

•Put the feed inside the cut jerry-can or container.
•Mash it well until soft.
•Add some water if it is too dry.

2

•Gently scrape the eggs on top of the mesh sieve.

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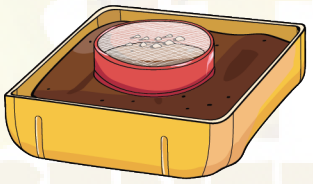


•Place the mesh sieve with the eggs on top of the feed.
•When the eggs hatch, the larvae will drop naturally and begin feeding.

•Do not like light.
•They feed actively.
•White in color.

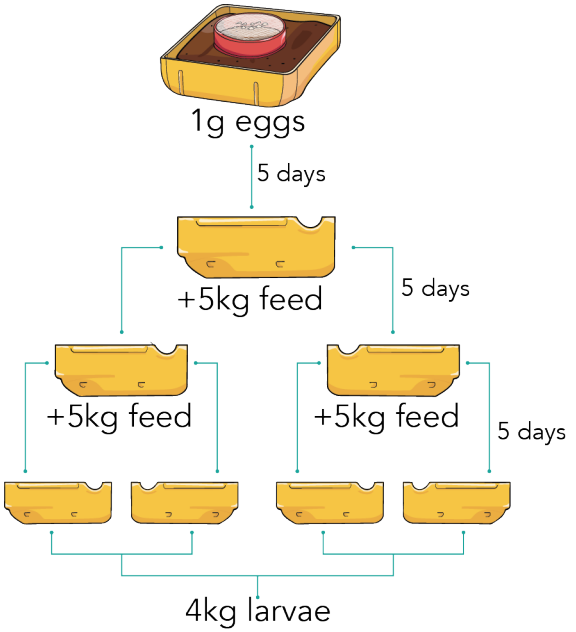
Materials needed:
•Spoon or small stick
•Halves of jerrycans/ container
•Sprayer (to sprinkle water)

Feed:
•Overripe fruits
•Vegetable scraps
•Food leftovers
•Rice bran

Growth time:
14-21 days

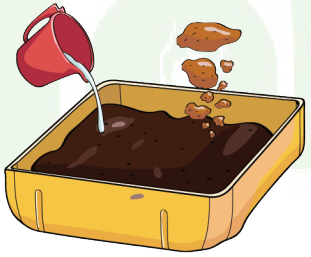
1g of eggs
↓
15kg of feed
↓
4kg of larvae

2- Larvae



•After 5 days, divide the larvae into equal portions and place them in cut jerrycans with feed.
•Mix the feed regularly.

Note

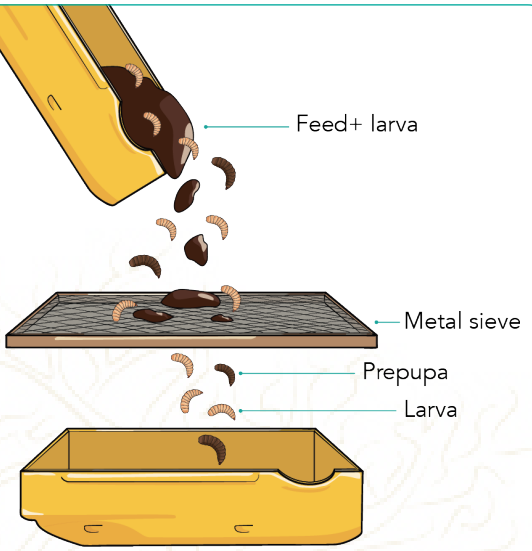


•Mash the feed well and add water if it is too dry.
•Add rice bran or dried chicken manure if substrate is too wet.

•Do not like light.
•Their color starts turning black.
•Well-fed and plump.
•Still active.

Materials needed:
•Metal sieve (3 mm)
•Spoon
•Container

3- Harvesting the larvae



•Need a bright location.
•Place the metal sieve on top of a container.
•Pour the feed with the larvae on top of the metal sieve.
•Leave it in the sun until all the larvae move into the container.
Or, gently collect the larvae and prepupa by hand (separate from fertilizer).

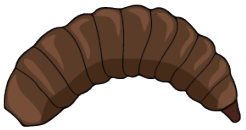
Products

Larvae Prepupae Frass

•Used as seed stock.
•Do not eat.
•Still active.
•Color turns black.
•Keep in a dark and dry place.

Materials needed:
•Container or half jerrycan
•Thin cloth
•Rice husks or dry sawdust

Time for prepupae to turn into pupae:
2-4 days



4 - Prepupae

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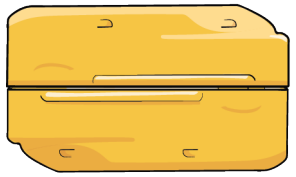
•Take a container or a half jerrycan.
•Spread rice husks or sawdust inside.
•Place the prepupae on top.

2



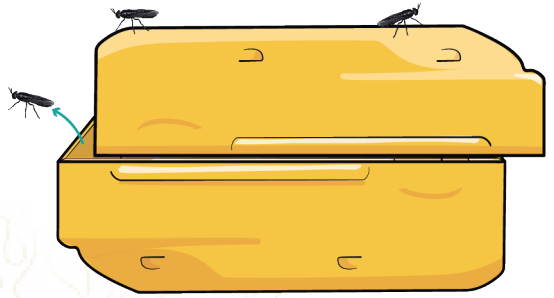
•Cover with another container or half jerrycan.

•No longer moving.
•Do not eat.
•Black in color.
•Need a dark and dry place.

Materials needed:
•2 containers or half jerrycans.
•Egg-laying net (love cage)

Time to become adult flies:
5-14 days

5 - Pupae



•Leave a small space between the two containers so the emerging flies can get out.
•Place them inside the love cage.

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- Like light.
- Do not eat.
- Drink water.

Materials needed:
- **Net**

- **Egg-laying site or "oviposition trap":**
  - -Small sticks
  - -Pushpins
  - -Rubber bands

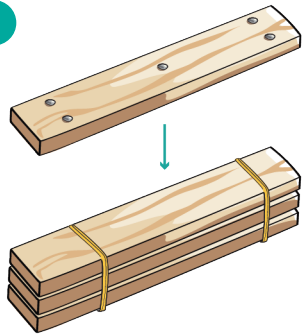
- **Attractant for egg-laying:** Strong-smelling waste (e.g., rotten fruits)

- **Drinking water source:**
  - -Sprayer
  - -Small cloth
  - -Water

Lifespan: 2-14 days

6 - Flies

1



Egg-laying setup:
- Take 3 or 4 small sticks.
- Pin them with pushpins at each corner and in the middle.
- Tie them together with rubber bands.

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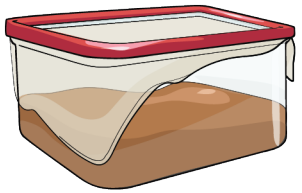

Attractant for egg-laying :
- Put the organic waste inside a container.
- Add water if it's too dry.
- Cover with a thin cloth.

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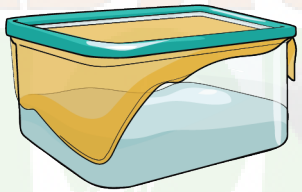
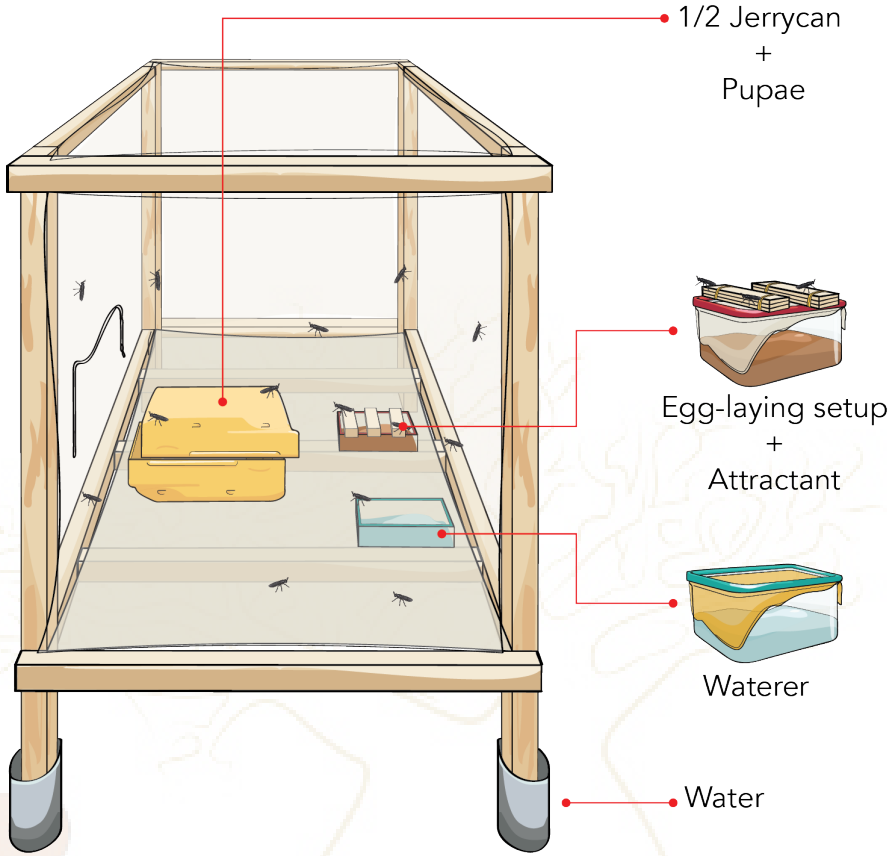


Drinking Water Setup:
- Take a small container with a lid.
- Fill it with water.
- Make small holes in the lid.
- Insert a small cloth through the holes.
- Cover the container with the lid.

Love cage



It is advised to add a roof to protect against rain and excessive heat.

Tips for managing your BSF farm

Daily monitoring:
- Location: check temperature (27–35°C), humidity, light, and cleanliness.
- Feed: use natural organic waste, free of chemicals or medicines. If unsure, cook it slightly first.
- Love cage: keep it clean and free of pesticides.
- Water: always provide clean drinking water.

Protecting BSF from predators:
- Ants: pour water around the base of the love cage or apply used oil or clove oil.
- Rats: use a metal mesh or wooden barrier to protect the farm area, or keep cats nearby.

Cold days: place the containers together under the love cage to keep them warm.
Hot days: open small vents to allow air circulation.

*This booklet was produced by **Madagascar Biodiversity Center (MBC)** as part of the Circular Farming Program.*
Website: madagascarbio.org
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