

Mealworm



Mealworms are the larval form of the **mealworm beetle**, *Tenebrio molitor*, a species of darkling beetle. Like all holometabolic insects, they go through four life-stages: egg, larva, pupa, and adult. Larvae typically measure about 2.5cm or more, whereas adults are generally between 1.25 and 1.8cm in length.

Mealworms are typically used as a food source for reptile and avian pets. They are also provided to wild birds in bird feeders, particularly during the nesting season when birds are raising their young and appreciate a ready food supply. They are commonly used for fishing bait.

They can be purchased at most pet stores and are also available via mail order and the internet (by the thousand). Mealworms are typically sold in a container with bran or oatmeal for food.

When rearing mealworms, commercial growers incorporate a juvenile hormone into the feeding process to keep the mealworm in the larval stage and achieve an abnormal length of 2 cm or greater



Reproduction: Mealworm beetles (darkling beetles) are prolific breeders. Mating is a three step process: 1) The male gives chase until the female relents. 2) The male then mounts the female and curls his genitals (aedagus) underneath himself and inserting it into her genital tract. 3) The male then injects the female with a packet of semen. Dependent on incubation temperature, just days after mating the female will burrow into soft ground and lay between 70 and 100 eggs.

Gestation: After 1 week the eggs hatch and larvae emerges.



Larva Stage: During the larva stage, mealworms will undergo repeated molting between bouts of eating various vegetation or dead insects. This takes place 10-14 times (instars) as it gets too big for its exoskeleton. During its last molt, it loses its carapace before curling into its pupil form.

Pupa Stage: The mealworm remains in its pupil stage from 6 days to around 30 days (dependent on incubation temperature and overwintering). The pupa starts a creamy white color and changes slowly to brown during its pupation stage.

Adulthood: The newly emerged mealworm beetle will sit still as its wings unfold and dry. It will appear a creamy color, stop moving, and will slowly brown over a period of 2-7 days. Once the mealworm beetle has browned they will become more mature and begin to look for a mate.

Life cycle

- Incubation: 10-11 days at 20°C; 4-6 days at 30°C
- Larval period: 90-114 days (10-14 larval instars).
- Pupil period: 30 days at 15°C; 9 days at 25°C; 6 days at 35°C.
- Adult Stage 5 - 10 days