TORTOISE HIBERNATION GUIDE

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There are several different methods of hibernating tortoises in captivity. The below guide gives an overview for the fridge method.

Hibernation is a natural process for many tortoise species and can help prevent excessive growth, encourage natural life cycles and allows the animals to survive poor weather conditions or low food availability in the wild. It is important that your tortoise's species is correctly identified as not all tortoise species can safely hibernate. Tortoises are very in tune with their environment, sensing changes in temperature, light and barometric pressures to initiate the hibernation process. Hibernation does carry risks, so it is important that you ensure that your tortoise is healthy and a safe hibernation method is chosen to reduce the risks. Hibernation in captivity should consist of a wind down period, hibernation, followed by warming them up. This hibernation guide is for healthy adult Mediterranean and Horsfield species only.

A couple of months prior to hibernation, it is wise to send off a faecal sample to check for parasites. If tortoises go into hibernation with a parasite burden it can cause complications. It is also important to get them health checked by an exotics vet before starting the wind down period. A tortoise that is or has recently been unwell should not be hibernated as the low temperature required for hibernation results in a limited immune system. For Mediterranean tortoises (except marginated) the Jackson's ratio can be a useful tool to check your tortoises' overall body condition. This entails measuring your tortoises' carapace length and getting an accurate weight and entering it into the formula to reach a score for body condition. If your tortoise is under or overweight, hibernation can carry serious risks, and you may need to consider overwintering them indoors. The Jackson's ratio does not work in marginated and Horsfield species, for Horsfield tortoises a similar method called the McIntyre's ratio can be used.

There are a few different methods to hibernate tortoises in captivity, and each have their pros and cons. It is important to choose a method based on plenty of research and within your means. The main methods are natural hibernation, box hibernation and fridge hibernation. This guide details the fridge method. A fridge housed in a stable environment without an ice box should be used.

Wind down period:

This stage of hibernation is vital to ensure that your tortoise is prepared for a long sleep and will take 3-4 weeks to complete. Tortoises should always have an empty bowel and full bladder to hibernate safely. When to start this period can depend on the weather, starting in November is usually recommended.

<u>Week 1</u>
Stop feeding and keep lighting and heating the same. Bathe in lukewarm water every 2-3 days.

<u>Week 2</u>
As above. Prepare fridge and hibernation box with plenty of time to spare. The temperature of the fridge should range from 4-6°c with 50-70% humidity - this should be monitored with reliable digital thermometers and hygrometers. The hibernation box can be a plastic storage box with air holes, with a deep layer of slightly damp topsoil/sand mix or chipped cardboard/paper for them to bury in.

Week 3

No food. Start reducing lighting and heating gradually over the week. Bathe every 2-3 days in lukewarm water. Check fridge temperature and humidity to ensure these are maintaining safe parameters.

Week 4

No food and turn off supplementary lighting. Temperatures at this time should be maintained at around 10°c. Bathe every 2-3 days in lukewarm water.

Hibernation:

Once the wind down process has been followed and the fridge temperature and humidity are consistent, the tortoise can be put in the fridge. It is normal for there to be some movement whilst they settle in and go into a hibernation state.

The adult tortoise can remain in the fridge for 12-16 weeks. Younger animals can be safely hibernated but for shorter periods as their reserves are limited. During this time, the temperature and humidity of the fridge should be monitored at least daily, and the fridge door opened to encourage air flow. Disturbance can be kept to a minimum, with health checks being conducted every 1-2 weeks (see our hibernation health check list). If your tortoise is losing significant bodyweight (over 10%), showing signs of ill health, or has urinated in the box they will need to be woken sooner.

Warm up:

Once the tortoise has completed their hibernation period, they can start to be woken up. When using the natural or box method the tortoise will usually wake up naturally due the change in temperature and light cycles, whereas tortoises in a fridge will need to be woken.

Day 1:

Switch off the fridge or leave the door open to gradually increase the temperature over a few hours. They can then be removed from the fridge, bathed in lukewarm water and left at room temperature to continue warming. You should see them starting to move around more. Get their enclosure ready with their usual UV lighting and temperature at around 15°c.

Day 2:

Bathe again and move into their enclosure. Every few hours their heat source can be turned up until at their normal basking temperature. Once at full temperature, the tortoise can be offered food.

Day 3:

Bathe and offer food.

If your tortoise does not start to eat within a 5-7 days of being awake, a vet visit may be required. Post-hibernation anorexia can become serious quite quickly.

Other hibernation methods:

Each method of hibernation has their pros and cons; it is important to consider all of these and the facilities available to you before making an informed decision.

Natural hibernation - left to own devices in garden/enclosure

Pros	Cons
Most natural	Injuries from predators or rodents
No equipment required	Temperatures cannot be accurately monitored or controlled which can lead to frostbite, death or waking up prematurely
	Not easy to monitor tortoise health

Box hibernation - insulated box in garage, shed or loft

Pros	Cons
Safer from predators	At risk of changing temperatures if not monitored closely
Temperatures can be monitored closely, and the tortoise can be relocated if necessary	
Can monitor tortoise health	
Less equipment required	

Fridge hibernation – hibernation in a fridge

Pros	Cons
Close control and monitoring of temperatures to prevent over or underheating	Risk from malfunctioning equipment or power cuts
Close monitoring of tortoise health	More equipment required
Safe from predators	Increased cost of electricity
Generally considered the safest method of hibernation	