

# Hamsters

## History

The golden hamster, *Mesocricetus auratus*, is a small, short-tailed, stocky rodent which was first captured in Syria in 1930. All hamsters sold as pets are descended from the one male and two female siblings that survived that capture and domestication. Wild hamsters still live in a very limited range in the Middle East. Hamsters are nocturnal but do have short periods of activity in the day. They are known for their cheek pouches where they store food for transport for storage in their burrows. These cheek pouches are quite large and can extend to their shoulders. They use their front legs to move food out of the pouches by using a forward pushing motion. There are several color variations and a long-haired hamster known as “teddy bears”.

## As Pets

Hamsters have poor vision and depend on their large funnel shaped ears for information about their surroundings. This may contribute to their tendency to bite if startled, injured, awakened or roughly handled. This trait plus their nocturnal nature makes them less than ideal pets for young children. They are popular for children, possible for their very short life span (usually 18-24 months at the most). They can be gentle if handled gently and with care not to startle them.

## Housing

Many types of housing are available for hamsters, including ones with wheels, tunnels, and small houses. Hamsters do enjoy lots of wood shaving on the bottom of their cages and even non pregnant females will build nests, so nesting material should be supplied. Hamsters chew plastic, wood, and soft metal, and will escape easily from poorly secured cages. Escaped hamsters will not return to their cages (rats and gerbils will), so the use of a live trap or a ramp leading to a bucket placed along a wall may need to be used to capture the escapee. Hamsters really enjoy their wheels for exercise and some females have been clocked at up to 8 km per hour. Hamsters are most comfortable at temperatures between 65 and 80° F. If the temperature drops below 41°, they will go into a type of hibernation where the body temperature drops to almost room temperature, respiration drops to about 1/minute and the heart rate drops to 5-15/min. If this happens, warm them up slowly over an hour. Hamsters should be kept solitary unless you have a group of same sex siblings who have never been separated from birth. There

is a tendency toward fighting and a female hamster can kill a strange male in her cage if she is not sexually receptive.

### Feeding

Hamsters have a relatively short nose/snout and can not easily eat out of wire troughs. They are omnivores but should be fed a good pelleted rodent diet containing 16% protein and one 4-5% fat. If the protein is too low, they will loose their hair. If the fat is too high (over 7-9%) they will die. They should eat about 2 tsp of food a day and only drink about 2 tsp of water. Because of their low food and water intake, they produce little waste.

### Handling

Care must be taken when picking up the hamster that you do not hurt it or startle it. If you need to move the hamster and it is not tame, then scooping it up into a small plastic container is okay, but generally just picking it up with both hands and supporting its hind end will allow the hamster to feel secure. The skin on the back of the neck is loose and may be used to aid handling. Do not use the tail.

### Medical Issues

Hamsters are very healthy animals. Problems can arise when injured in a fight, from illnesses due to dirty cages (skin and respiratory), “wet tail” which is diarrhea, and malocclusion due to improper teeth alignment which can lead to malnutrition and death. Hibernation can occur when the temperature goes below 41° F, but can also occur at higher temperatures if there is only about 2 hours of light. They may hibernate for other reasons not understood. They appear comatose or dead (curled up in a ball) and may appear that way for days. Before you dispose of the hamster, slowly warm up the hamster (at least an hour) to normal temperature (no higher that 80° F) and supply at least 12 hours of continuous light.

### Hamsters – Quick Facts

#### Physiologic

- Adult male body weight: 85-130g
- Adult female body weight: 95-150g
- Life span: 18-24 months (3 years at the longest)
- Rectal/body temperature: 37-38° C
- Diploid number: 44
- Food consumption: >15g/100g per day

- Water consumption: >20ml/100g per day
- Respiratory rate: 35-135/min
- Tidal volume: 0.6-1.4ml
- Oxygen use: 0.6-1.4 ml/g/hr
- Heart rate: 250-500/min
- Blood volume: 78ml/kg
- Blood pressure: 150/100 mm Hg

#### Reproductive

- Puberty(male): 45-75 days
- Breeding onset(male): 10-14 weeks
- Breeding onset(female): 6-10 weeks (may be mature at 35 days but first breeding should be withheld until adult weight)
- Cycle length: 4 days (polyestrous)
- Gestation period: 15-18 days
- Postpartum estrus: Infertile (Fertile estrus follows weaning by 2-18 days)
- Parturition: >3hrs
- Litter size: 5-9
- Birth weight: 2g
- Weaning age: 20-25 days
- Breeding duration(commercial): 10-12 months (5-7 litters)
- Young production: 3 months
- Milk composition: 12% fat, 9% protein, 3.4% lactose

#### Breeding

- As estrus nears, thin mucus may be seen from the female's vulva
- The morning following estrus, an opaque, stringy mucus will appear. During early evening, a receptive female will approach a male in a non-belligerent manner, which indicates mating probability
- Group mating schemes or monogamous pair-mating used with other rodent species are not advisable because hamsters fight
- For hamsters, the hand-mating system is preferred. The female is placed into the male's cage 1 hour before dark and the pair observed for mating activity or fighting. The male is removed following either outcome
- Other systems used commercially: sequential monogamy increases litter size – 7 females rotated at 1 week intervals

through a male's cage. Non-pregnant females may be rotated sooner. Injured or exhausted males are rested, replaced, retired or even euthanized if fatally injured. Not recommended for pet hamsters, as fighting may be severe

#### Pregnancy and Raising Young

- After mating, the female should not have any discharge
- Pregnancy indicated by weight gain and abdominal distention at 10 days
- At day 13 after mating, female should be supplied with a week's supply of food, bedding, water
- Pseudo pregnancy which lasts 7-13 days may result following infertile mating or if females are crowded
- Female becomes active, restless and has slight vaginal bleeding prior to delivery
- Litter abandonment and cannibalism are fairly common. Do not disturb for at least 1 week after birth. Make small water tube available to babies at this time
- Fostering and hand raising are rarely successful