

Guinea Pigs

History

The guinea pig, *Cavia porcellus*, has been domesticated for at least 3,000 years in South America. Explorers brought the first guinea pigs to Europe in the 16th century where they were popular and breeding has produced: the modern English, or American, guinea pig is short-haired. The Abyssinian has short rough coat arranged in whorls and the Peruvian has long-haired varieties. Originally, the Andean Indians bred them as a food source, and even today, their wild and domestic relatives are still used as a special food. Guinea pigs are rodents who are gregarious, crepuscular and are related to chinchillas and porcupines. They are noted for their dietary need of Vitamin C and for having very large, precocious young. Most guinea pigs live for 4-5 years if well taken care of, and may live up to 8 years (very unusual).

As a Pet

Guinea pigs make great pets. If handled gently, they rarely bite or scratch. They seldom climb or jump, so rarely escape their cages. They respond quickly to training, especially if food is a reward and can be taught to vocalize on cue. If the guinea pigs needs are met, they can be good companions for adults and children. Humans with allergies may find them highly allergenic.

Housing

Guinea pigs may be housed in pens on the floor, tiered cages or large cages. Cages can be plastic, metal, or wire but care must be taken with wire. If the guinea pig has not been raised on wire, they may break a leg, develop ulcers on their foot pads, or have hair loss from stress. Open topped enclosures with sides only 7-8 inches high will usually contain the guinea pigs (although other creatures can get in) because they can not jump or climb over that height usually. Bedding of plant origin may be used including shredded newspaper. They are not burrowers by nature but will use a borrow or hiding place if one is provided.

Temperatures between 65-80° F are optimal. Lower temperatures may be survived but the guinea pig is very sensitive to higher temperatures and high humidity. Humidity should not exceed 50%, and the temperature should not exceed 85° F.

The original ancestors lived on grassy plains and often escaped predators by running away. This has led to a curious behavior in guinea pigs known as

stampeding. If guinea pigs become frightened and for other unknown reasons, they may begin to charge around in straight lines or in circles. They do not pay attention to their surrounding and may run off the edge of a table or keep running in circles until they are exhausted. In the process, they may die or trample others to death. To avoid this, rectangular cages are recommended, not square or circular. Another reaction to fright or startle, is the “freeze”. Some will stay immobile for up to 20 minutes.

Socially, guinea pigs are happiest in groups. Males may live together and usually will not fight once a hierarchy has been established. The happiest combo seems to be one male with several females, the male can be neutered or the females spayed to prevent unwanted litters.

Guinea pigs are messy housekeepers. They spread their litter and food around, spit in their water bottle, and have very opaque, creamy urine which may contain crystals. Cages need to be cleaned frequently (at least once a week).

Food and Water

Guinea pigs, like humans and other primates, can not make their own Vitamin C. Therefore, they require it daily from their diet or from vitamins added to the water (not preferred). Good quality guinea pig chow (not rabbit, etc.) freshly milled (not older than 2 months) and stored properly (cool sealed container) may contain adequate amounts of the vitamin. Vitamin C in the form of food supplements is always a good idea. Small handfuls of kale, cabbage or ¼ orange per animal should have adequate amounts. Carrots and lettuce don't count. Chewable vitamin tablets can work too, if they will eat them. One 50mg tablet/day is more than adequate. Adding vitamin C to the water is not as good because the vitamin C quickly degrades in water and must be replaced every 24 hours. You can also never be sure how much they are drinking. Rabbit food also contains too much vitamin D for guinea pigs and may be at toxic levels. Guinea pig food should contain 18-20% protein and 10-16% fiber, and should always be available.

Guinea pigs are famous for playing with, spitting in and draining their water bottles. Bowls, pans and crocks are not good choices for the water as they love to turn them over, chew on them and make a mess with all the water and bedding. However, whatever way the guinea pig has been raised should be continued at home. Guinea pigs can literally die of dehydration before they learn how to use a new water source. Sipper bottles with valves to prevent drainage may be helpful but spitting food into the bottle may clog it. Check on the water situation frequently every day.

Guinea pigs are also creatures of habit when it comes to food, and may starve to death with sudden food changes. Make all changes in food and water sources very gradually. Some older pigs may never change their habits and must watch out for this and go back to the old ways.

Handling and Moms

Guinea pigs should be picked up by putting one hand under their chest and supporting their hind end with the other hand. Do not grab a guinea pig, especially in the chest area. Injury to the ribs, lungs or liver may result. Pigs are mostly docile and don't struggle if held right

Guinea pigs are born fully haired, eyes open, teeth erupted and ready to go. In fact, they are very large and look like a little version of their mom. Birth weights are between 70 and 100 grams, mom usually weighs around 700 grams. She can have 2-5 babies. Breeding is not recommended, but if done must do so before 6-7 months of age. Guinea pigs pelvis is unique in its ability to separate widely to accommodate these big babies at birth. However, the pelvis will fuse and will not separate if it has not done so early in the pigs life. If she is bred later, she will need a C-Section or she will die. Breeding once at an early age will prevent this problem. Babies are eating and drinking within hours of birth but still nurse for about a month.

Guinea Pigs – Quick Facts

Physiologic

- Life Span 4-8 years (5 years average for captivity)
- Adult male body weight: 900-1200g
- Adult female body weight: 750-900g
- Rectal/body temperature: 37.2-39.5° C
- Diploid number: 64
- Food consumption: 6/g/100g/day
- Water consumption: 10ml/100g/day
- GI transit time: 13-30 hours
- Respiratory rate: 42-104/min
- Tidal volume: 2.3-5.3ml/kg
- Heart rate: 230-380/min
- Blood volume: 69-75 ml/kg (7ml/100g)
- Blood pressure: 80-94/55-58 mm Hg
- Dentition: All teeth open-rooted: 1/1 incisors, 1/1 premolars, 0/0 canines, 3/3 molars

Reproductive

- Male = boar
- Female = Sow
- Puberty(male): 9-10 weeks
- Puberty(female): 6 weeks
- Breeding onset(male): 600-700g (3-4 months)
- Breeding onset(female): 350-450g (2-3 months)
- Estrous(heat cycle): 15-17 days
- Estrus(when accepting male): 1-16 hours (average 8 hours)
- Gestation period: 59-72 days (larger litter, shorter duration)
- Postpartum estrus: Fertile, 60-80% pregnancy
- Litter size: 1-6 (average 3-4)
- Birth weight: 60-110g
- Young development: precocial
- Lactation: Peaks by day 5-8 after parturition (agalactic by 23 days)
- Weaning age: 150-200g, 14-21 days
- Breeding duration(commercial): 1.5-4 years (4-5 litters)
- Young production(index per female): 0.7-1.4 per month
- Milk composition: 4% fat, 8% protein, 3% lactose, 83% water, 16% solids

Common Medical Problems in Guinea Pigs

Sick Guinea pigs often show nonspecific signs when they are sick such as nasal and ocular discharge, rough hair coat and anorexia. Some antibiotics can be fatal to pigs. The most common result from their use is destruction of the gut flora (bacteria) and death may occur 4-7 days after they've started antibiotics. Medications to avoid: penicillins, erythromycin, and streptomycin.

A common disease associated with guinea pigs is Vitamin C deficiency. Vitamin C is an absolute dietary requirement. Lack of vitamin C can lead to swollen, painful joints, sensitivity to being touched, weight loss, convulsions, prolonged period of inability to move, unthrifty appearance, distention around the joints, diarrhea, cutaneous sores and anorexia.

Another disease common to Guinea pigs housed in cages with wire mesh floors is ulcerative pododermatitis. This consists of a lesion or sore under one or more of the feet caused by a Staph infection.

Dental malocclusion is especially common in older pigs when the molars and premolars overgrow causing difficulty in eating solid food. The guinea pig usually slobbers excessively and will act hungry but not be able

to eat. A good dental examination is imperative to diagnose and treat misalignment of teeth.

Pigs should not be housed with rabbits who may give them some respiratory viruses. Respiratory diseases can cause nasal discharge and eye inflammation in affected guinea pig. Treatment for these diseases consists of supportive care and antibiotics.

Food changes must be made slowly. Some gastrointestinal upsets can be rapidly fatal.