

## Companion Animal Hospital Exotic Animal Care



The domestic rabbit, *Oryctolagus cuniculi*, is an intelligent and often friendly companion animal. When well cared for, rabbits may live 7 to 15 years. Male rabbits are called bucks, and female rabbits are called does. Baby rabbits are called kits or kittens.

### 1. Feeding your pet rabbit

Rabbits should always be eating and producing stools because of the structure of their digestive systems. As hindgut fermenters, their bowels are full of healthy bacteria that aid in digestion of plant material. If a rabbit stops eating, these bacteria quickly die off and produce toxins. **This is a life-threatening situation for a rabbit, and is an emergency.** If your rabbit has stopped eating and/or has stopped producing stools, please contact us or the Metro Animal Emergency Clinic ((902) 468-0674) as soon as possible. **Always provide fresh food to your rabbit to help avoid this condition.**

Rabbit diets should consist of three parts: Pellets, hay, and fresh fruits and vegetables. As rabbits are **browsers** by nature, they will selectively eat the most nutrient-rich food since this is a less common but more “valuable” meal in the wild. This means that for our pet rabbits, it is important to limit their access to rich foods like pellets, as they will easily overindulge which will contribute to obesity and dental problems.

- **Pellets:** This is a balanced diet that ensures that your bunny is receiving appropriate nutrition. Rabbit pellets have adequate levels of protein, vitamins, and minerals. A good rule of thumb is 1/8 cup of pellets per kilogram of rabbit daily, but it is a good idea to check with the manufacturer’s recommendations.
- **Hay:** Timothy, grass, or oat hay should be provided *ad libitum*. Hay provides fibre that keeps the digestive tract healthy, and rabbits can use the nutrition in hay because of their gut bacteria. Not only does hay provide nutrition, it also helps maintain their teeth and they may also use it as bedding. Store hay in a cool, dry place and regularly inspect it for moisture, discolouration, and/or mould. Hay should have a fresh, “grassy” scent.

Young rabbits (up to 6-7 months) may be fed alfalfa hay in addition to other hays. It is very rich in protein and calcium, which is good for a growing rabbit. After the age of 6 months we discourage feeding alfalfa hay as it promotes urolith (bladder stone) formation and can contribute to obesity.

- **Vegetables and fruits:** Providing a mix of healthy and appropriate fruits and vegetables will help to round out your rabbit's nutrition, and can provide enrichment. The bulk of the vegetables should be leafy greens, about 1 packed cup of greens per kilogram (2.2 lb.) of body weight. Offer at least three kinds of vegetables daily, and rotate food items regularly. When offering a new fruit or vegetable, do so one at a time so that you may monitor how your rabbit likes it. If any new food item causes soft stools or diarrhea, eliminate it from the diet.

Some fruits and vegetables naturally contain antinutrients. These are plant chemicals that reduce the body's ability to use certain nutrients. Oxalates or oxalic acid, a calcium antinutrient, is the biggest concern in pet rabbits.

*Leafy greens I (low in oxalates):* 60-75% of what is offered daily. Items with an asterisk (\*) are high in calcium and should be offered in combination with other, low-calcium greens.

- Arugula
- Basil (any variety)
- Bok choy
- Borage leaves
- Boston lettuce
- Chicory
- Cilantro
- Collard greens\*
- Cucumber leaves
- Dandelion greens\*
- Dill leaves
- Endive or escarole\*
- Fennel
- Frisée lettuce
- Mâche or nut lettuce
- Romaine lettuce
- Spring greens/mix
- Turnip greens\*
- Mint (any variety)
- Radicchio
- Raspberry leaves
- Watercress\*
- Wheatgrass
- Yu choy

*Leafy greens II (high in oxalates):* 15-20% of what is offered daily. Do not offer more than one of this category daily.

- Beet greens
- Carrot tops
- Kale
- Mustard greens
- Parsley
- Radish tops
- Spinach
- Swiss chard
- Sprouts, various (1-6 days old for better nutrition)

*Other vegetables:* About 15% of what is offered daily. Offer about 1 tablespoon per kilogram (2.2 lb) of rabbit daily.

- Bell peppers
- Broccoli (leaves, stems, buds)
- Broccolini
- Brussels sprouts
- Carrots
- Celery (leaves, stems)
- Flowers (ensure that they are pesticide-free): Hibiscus, nasturtium, pansy, rose
- Snow peas
- Summer squash (scallop squash, yellow crookneck squash, zucchini)

*Fruits:* Less than 10% of what is offered daily. Offer about 1 teaspoon per kilogram (2.2 lb) of rabbit daily. Unless otherwise stated, leaving the skin, rind, or peel on the fruit is preferred as long as the food is washed and rinsed thoroughly with warm soap and water. Feeding too much fruit can cause digestive upset.

- Apple, remove stem and seeds
- Apricot, remove pit
- Banana, remove peel
- Blackberries
- Blueberries
- Canary melon
- Cantaloupe
- Cherry, remove pits
- Currants
- Honeydew
- Kiwi
- Mango
- Nectarine
- Papaya
- Peach, remove pit
- Pear
- Pineapple, remove skin and leaves
- Plums, remove pit
- Star fruit
- Strawberries
- Watermelon

It is a good habit to find a food that your rabbit really likes to use as a treat. This can be offered in small amounts to gauge your rabbit's appetite, meaning that if he doesn't eat his favourite treat there may be an issue with his appetite. This treat food can also be used as positive reinforcement to reward good behaviours.

Some foods will upset the gut of rabbits, or are toxic. Avoid feeding these foods and plants (this list is not exhaustive):

- Apple seeds
- Apricot plant (all parts except fruit)
- Avocado
- Beans (any kind)
- Bread
- Cereals
- Chocolate
- Corn
- Nuts
- Oats
- Onion
- Peas
- Refined sugar
- Rice
- Seeds
- Tomato plant (leaves, stem, vines)
- Wheat

For a complete list of toxic garden and houseplants, please see this list on Medirabbit.com: [http://www.medirabbit.com/EN/GI\\_diseases/Food/Toxic\\_plants\\_en.pdf](http://www.medirabbit.com/EN/GI_diseases/Food/Toxic_plants_en.pdf)

Rabbits should always have access to fresh and clean water, provided in a water bottle. The water bottle and any other food dish should be washed regularly to maintain good hygiene.

## 2. Behaviour, socialization, and handling

Rabbits have evolved as prey animals so they are naturally shy and reserved (although every bunny has a different personality!). With time and patience, many rabbits learn to enjoy socializing with people, and even gentle handling. It is important to socialize your rabbit slowly, as being too forceful will cause undue stress.

Rabbits prefer to have their feet on the ground. They often become interested in a person who sits on the floor with them. Allowing the rabbit to come to you to investigate is a great way to start with socialization. Try tapping or patting the floor gently- they often come to investigate the vibrations. Having a tasty food item ready as a reward can help your rabbit learn that you are a source of good things!

When picking up a bunny, always support their rear end. Many rabbits will gladly tuck their face into your arm when picked up. A two-armed hold, like carrying a football, is a safe way to carry your rabbit.

Please note that rabbits have very light, delicate skeletons, and very powerful hind limb muscles. A rabbit that is not held properly may kick, flail, and potentially fracture its own back. This is a fatal injury. Our staff would be happy to demonstrate how to safely pick up and carry your rabbit.

Rabbits need their nails trimmed regularly. Socializing your rabbit at an early age can help make this procedure less stressful. If your rabbit is very calm and complacent, our staff can demonstrate how to do this at home. If you are not comfortable with handling or trimming, our staff can perform regular nail trims for you.

### **3. Housing and exercise**

While rabbits can have a sizeable cage to return to at night or when unsupervised, they need at least 2-3 hours of exercise time outside of the cage daily. Bunny-proofing the rooms that your rabbit has access to is critical- rabbits are very good at finding hazards like wires, houseplants, etc., and may chew valuables. Getting down on your hands and knees to see the room from the rabbit's perspective can help immensely.

As rabbits are crepuscular, the best times for exercise are dawn and dusk. Rabbits will sleep through the day and night.

Rabbit cages need to be large enough for the animal to comfortably move around when confined. A minimum recommended size is 0.6 m long by 0.9 m wide by 0.6 m tall (24" long by 36" wide by 24" tall). Very large rabbits require larger cages. If you have a space in the home that is completely rabbit-proofed, some rabbits may free roam safely without a cage.

Bedding or substrate in the rabbit cage needs to be carefully selected. Wood shavings of a non-aromatic wood, like aspen, are safe. Aromatic wood shavings such as cedar and pine are not safe: The fumes (aromatic hydrocarbons) are irritating to the respiratory tract and are hepatotoxic (harm the liver) in large concentrations.

Aside from wood shavings, corrugated cardboard boxes that have been flattened coupled with towels for the bedding make a great combination. Rabbits also enjoy chewing on the cardboard, which is good environmental enrichment. Rabbits will also use available hay to make a bed.

Compressed newspaper pellets make a great litter, and many rabbits can learn to use a litter box.

We do not recommend keeping your pet rabbit outdoors during warm weather. Rabbits outdoors are exposed to parasites such as fleas and bot flies, predators, and weather extremes.

#### 4. Health

Rabbits are prey animals so they hide any signs of illness very well. This is a behavioural defense to avoid being eaten in the wild. If you notice any subtle changes in behavior, this can be the first hint that something may be wrong. Do not hesitate to contact us if you feel that your rabbit's behaviour has changed.

Your rabbit's fur should be clean and dry, and his or her eyes, nose, and mouth should be free of discharge. If you notice anything like runny eyes or nose, wet fur around the mouth, anus, or genital region, these can be linked to various health problems and your rabbit needs to see the veterinarian.

Monitoring your rabbit's waste production is important. Most rabbits will defecate and urinate in one part of their home, and often they can be trained to use a litter box. Generally, rabbits produce three forms of waste:

- **Feces or stools** are produced as waste from the digestive tract, and like in other animals contains what is left over from digestion. Normal, healthy rabbit stools are small, round, and dry. Sometimes stools will be moister if the rabbit has eaten some unusual foods, but continued moist stool can be a sign of serious digestive upset. True diarrhea where the stool is mostly water and has no form is rare in rabbits, but indicates a life-threatening health problem and requires immediate treatment.
- **Urine** can vary in colour and consistency in healthy rabbits, depending on what the rabbit is eating. Generally, urine is clear and pale yellow like in other mammals, but may vary from orange to brown if the rabbit is eating vegetables and fruits containing a lot of similar-coloured plant pigments. Similarly, if a rabbit's diet is high in calcium, the urine will contain some sand-like whitish sediment. If your rabbit has changes in urine colour or sediment that do not seem to have a dietary explanation or it does not return to normal within a few days to a week, it could be a sign of a more serious health problem. Blood in the urine (hematuria) may appear red or pink and requires veterinary attention. If your rabbit is trying to urinate but is only producing small drops or no urine

at all, this is a true emergency and your rabbit needs immediate medical attention.

- **Cecotropes** are a unique product of the rabbit's digestive tract. They are nutrient-rich products of the cecum, a blind-ended pocket of the rabbit's colon filled with healthy microorganisms that digest some of the tough plant material for the rabbit host. Rabbits generally eat the cecotropes directly from the anus and tend to be rarely seen in the rabbit's home. They are typically the same size as stools but slightly oblong or elongated, greenish, moist or mucous-coated, and odourous. You may see the occasional uneaten cecotrope, but if you see many of them it can indicate that your rabbit has a health issue.

We recommend that rabbits be spayed or neutered close to the age of 6 months. In males, this helps to curb undesirable behaviours such as marking and aggression. It will also eliminate any possibility of cancers of the reproductive organs which occur later in life since they are being removed. Please feel free to contact our hospital staff if you have any questions regarding this procedure.

## 5. Further reading

There are many excellent sources of rabbit care and health information on the Internet. We recommend the following websites as a start.

- House Rabbit Society  
<[www.rabbit.org](http://www.rabbit.org)>
- Veterinary Partner  
<[www.veterinarypartner.com](http://www.veterinarypartner.com)>
- MediRabbit.com  
<[www.medirabbit.com](http://www.medirabbit.com)>