

RABBIT 101

A BASIC CARE GUIDE

DIET & NUTRITION

BASIC NUTRITIONAL REQUIREMENTS

- Rabbit diets should consist of 80% fresh hay, 10% veggies, 5% pellets, and 5% treats.
- Always introduce new foods sparingly to see how your rabbit responds before giving larger amounts. Droppings are a good indicator of digestion abnormalities and foods that cause loose stools should be avoided.

| AGE | HAY | PELLETS | VEGGIES | TREATS |
|--------------------|--|---------------------------------|--|---------------------------|
| 7 weeks – 7 months | Unlimited alfalfa hay | Unlimited | Introduce one at a time | None |
| 7 months – 1 year | Transition from unlimited alfalfa hay to grass hay | ½ cup per 6 lbs body weight | Increase gradually to 1–2 cups per 6 lbs body weight | 1 tsp or 1 oz per day |
| >1 year | Unlimited grass hay | ¼ – ½ cup per 6 lbs body weight | 1–2 cups per 6 lbs body weight | 1–2 tsp or 1–2 oz per day |

HAY

- Alfalfa hay is higher in protein and calcium, and is recommended for young rabbits who are actively growing, nursing mothers, and rabbits who have trouble maintaining weight.
- Grass hays, such as timothy grass hay or orchard grass hays, are lower in protein and calcium than alfalfa hay, but higher in fiber. Grass hays are recommended for most rabbits to promote dental and digestive health.
- Hay can be purchased at many farm stores as large bales, but they may be of lower quality. Avoid hay that is moldy, brown, or contains “weeds.” Small Pet Select and Oxbow both offer high quality hays, and can be purchased online and in most pet stores.
- Hay should be stored in a cool, dark, dry place to prolong its shelf-life.

PELLETS

- When choosing a good pellet, avoid anything that contains seeds, nuts, corn, or fruit bits as these “gourmet” blends cause digestive issues that can be lethal to your rabbit.
- A good pellet should contain at least 18% fiber to maintain gut motility. The following brands are generally considered good for most rabbits:
 - Oxbow (Essentials, Organic Rabbit, Natural Science, & Garden Select)
 - Sherwood Forest (Complete & Professional)
 - Small Pet Select
 - Kaytee (Timothy Complete & Timothy Complete Plus)

- Avoid buying large quantities as pellets as they lose nutritional value over time and can become rancid when exposed to moisture. Unused pellets should be discarded 6 weeks after the bag has been opened.

VEGGIES

- When starting to feed vegetables to your rabbit, start with one variety at a time to see how he/she tolerates it. If your bunny experiences loose stools with a certain vegetable, avoid that vegetable and try a different variety.
- Some vegetables are high in oxalic acid, which can cause kidney stones if consumed in high quantities. Only 1 out of 3 varieties of greens per day should be high in oxalic acid, and these vegetables are noted below.
- Non-leafy vegetables should be given on a more limited basis because these tend to have more sugar content or may cause gas. It is best to limit these vegetables to roughly 1 tablespoon per 2 lbs of body weight per day.

| LEAFY GREENS (High Oxalic Acid Content) | LEAFY GREENS (Low Oxalic Acid Content) | NON-LEAFY GREENS |
|--|--|---|
| <ul style="list-style-type: none"> · Parsley · Spinach · Mustard Greens · Beet Greens · Swiss Chard · Radish Tops · Sprouts | <ul style="list-style-type: none"> · Arugula · Endive · Escarole · Kale · Red/Green Leaf Lettuce · Romaine Lettuce · Spring Greens · Turnip Greens · Dandelion Greens · Mint · Basil · Cilantro · Radicchio · Bok Choy · Fennel | <ul style="list-style-type: none"> · Broccoli/Broccolini · Edible Flowers <ul style="list-style-type: none"> · Roses, Pansies, Hibiscus, Dandelion · Celery · Bell Peppers · Chinese Pea Pods · Brussel Sprouts · Cabbage · Summer Squash · Zucchini Squash · Pumpkin |

TREATS

- Treats for rabbits include fresh or dried fruits, oatmeal, and starchy vegetables (e.g. carrots). These foods should be given in limited quantities due to the high sugar content of each. Typically an adult rabbit should only receive 1–2 tsp or 1–2 oz of treats per day.
- Fruits that are safe to eat include: Apples, apricots, bananas, berries (e.g. blackberries, raspberries, strawberries, etc.), cherries, kiwi, mangos, melons, nectarines, oranges, papayas, peaches, pears, pineapples, plums, and tomatoes.
- Make sure to remove any pits or larger seeds (e.g. apples) from the fruit before giving it to your bunny as many of these are toxic to rabbits. Fruits with thick skins or peels should have these removed as well.
- Dried fruits have a higher sugar content than fresh fruits and should be given in even smaller quantities to avoid weight gain and digestive issues.

HOUSING

INDOORS VS. OUTDOORS

- Rabbits are happier and live longer when kept indoors. The average lifespan of an indoor rabbit more than twice that of an outdoor rabbit (7–12 years vs. 3–5 years) because rabbits kept outside are exposed to bad weather, diseases, toxins/poisons (e.g. pesticides, fertilizers), and predators. Even when kept in securely locked hutches, the sight, sound, or smell of a nearby predator can cause a rabbit to panic, resulting in injury or even death due to shock. As such, bunnies should spend most of their time indoors, with only occasional excursions outside to play if desired (preferably supervised).

ENCLOSURES

- Bunnies need a place to call their own for safety and privacy. This space should be large enough for a litter box, food bowl, water bowl, hideaway or nest box, and toys with room left over for relaxing and hopping. The enclosure should be at least 4x the length of your rabbit when fully grown and tall enough to stand up in without his/her ears touching the top.
- The following are options that may work, depending on the space you have available:
 - **Cages:** Large dog crates with plastic bottoms are best if you choose to use a cage as your bun's home base. Avoid "rabbit starter" cages as these are too small for a bunny to spend any significant amount of time in. Also, cages with wire floors should also be avoided as these can cause your bunny to develop sore hocks.
 - **Hutches/Condos:** Multi-tiered hutches or condos can provide more overall space than cages by utilizing vertical space as well as horizontal space. If you choose to buy a hutch/condo, avoid ones that are painted or made of other materials that are not safe for ingestion as bunnies are very apt to chew things. Many owners opt to construct their own hutches as this is often cheaper and may be better suited for your rabbit than many pre-built hutches.
 - **Pens:** Pens can be constructed from a variety of materials, but some of the best include metal exercise pens or wire shelving panels. These are particularly useful for nonstandard spaces, and are often much easier to clean than cages or condos. If you choose to use a pen, you may want to cover the native flooring with cotton rugs, carpet remnants, linoleum, vinyl, or plastic mats to prevent damage from chewing/digging or stains from accidents.
- Note that the smaller the enclosure, the more time outside of it your rabbit will need. In general, rabbits need at least 2 hours per day in a space large enough for running/jumping.

LITTER BOXES

- When choosing a litter box, opt for a plastic bin that is large enough for your bunny to lie stretched out in, as small boxes often promote peeing outside the box. Cat litter boxes work great for most rabbits, and under-the-bed storage bins work well for larger buns.
- Wood pellets make the best bunny litter and are available in most farm & fleet stores (sold as fuel for wood stoves or equine bedding). DO NOT use cat litter, corn cob litter, or wood shavings. These can cause respiratory problems and are toxic if consumed.

FOOD & WATER DISPENSERS

- **Food:** Ceramic or glass bowls are ideal for serving pellets and veggies, as they are heavier than plastic bowls and much less likely to end up as toss toys. Hay should be placed in the litter box to promote good litter habits, as bunnies typically poop where they eat. The hay can be placed directly in the litter box, or in a dispenser (e.g. wire basket, plastic bag dispenser, wood hopper) to minimize waste.
- **Water:** Bowls are generally preferred over bottles because bottles require bunnies to work harder for their water, which can result in chronic dehydration and predispose them to GI stasis. Large ceramic bowls that can hold at least 3 cups of water are ideal as these will provide sufficient water throughout the day, and are not as likely as plastic bowls to be tossed around and dumped.

HIDEAWAYS

- Occasionally your rabbits may become stressed or scared and will need a secure place within their enclosure to hide in. These hideaways can include plastic shelters, wicker tunnels/tents, wood houses, or cardboard boxes with an entryway cut out of the side. Many commercially available hideaways run on the small side, so make sure to check the dimensions and choose something that is large enough for your rabbit to lie down in.

TOYS

- Rabbits love to play and will need variety of toys to chew, dig, and toss around in order to prevent boredom. Bored bunnies are destructive bunnies and will turn to whatever they can find (e.g. carpets, baseboards, walls) when their options are limited. Chew toys are particularly important for bunnies as rabbit teeth are constantly growing and need to be worn down to prevent overgrowth. The following is a list of things you can offer your bunny, many of which you may have lying around your house:
 - **Cardboard boxes:** Cut holes in the sides to make a house, fill it with shredded paper to create a digging box, or thread pieces onto a length of twine and hang it from the side of the pen. Avoid pieces with lots of ink as the ink can cause poisoning in large quantities.
 - **Toilet paper or paper towel tubes:** Fill them with hay and put a piece of dried fruit in the center, or cut them up and create little balls or garlands for them to toss.
 - **Wicker balls, baskets, or wreaths:** Buy from the store or create your own from willow branches. If bought from a store, make sure the wicker is untreated.
 - **Phone books or newspaper:** Old phone books with the covers removed and newspapers make great shredding toys since the ink in these is non-toxic to rabbits.
 - **Baby toys or cat toys:** Hard plastic balls, rattles, and plastic keys make great toss toys!
 - **Slinkies:** Plastic slinkies hung from the side of the pen are fascinating to pull on!
 - **Cotton towels or fleece blankets:** Great for digging around and nesting in.
 - **Wood blocks or branches:** Make sure to use non-toxic woods
 - **Safe** = Apple, ash, aspen, cottonwood, pine (dried), sugar or silver maple, willow
 - **Toxic** = Beech, birch, cedar, cherry, elm, fir, mahogany, red maple, spruce, walnut

COMMUNICATION & INTERACTION

BUNNY LANGUAGE

- Rabbits are prey animals, which mean they are generally wary of larger animals (e.g. humans), startle easily, and will hide if they are scared or ill. Learning to read body language, including posture and ear position, will help you to understand how your bunny is feeling so you know how to respond to what he or she is telling you. The following infographic demonstrates some of the most common bunny body language postures:

A happy rabbit

These rabbits are relaxed and happy.

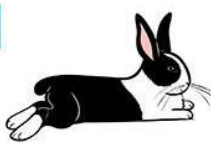
Rabbits 1-3 show ears close together, facing slightly backwards and pointing outwards. Eyes may be partially closed.

1



Rabbit is lying down, with a relaxed body posture and legs tucked under the body.

2



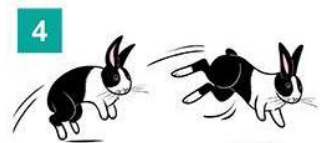
Rabbit is lying down, with front paws pointing forward and rear legs stuck out sideways. Body is relaxed and extended.

3



Rabbit is lying down with a fully extended, relaxed body. Back legs are stretched out behind the body and the front paws are pointing forward.

4



Rabbit jumps into the air with all four paws off the ground and twists in mid-air before landing.

A worried rabbit

These rabbits are telling you that they are uncomfortable and don't want you near them.

1



Rabbit is in a crouched position, muscles are tense, head held flat to the ground, ears wide apart and flattened against the back, pupils dilated.

2



Rabbits who are worried or anxious may hide.

An angry or very unhappy rabbit

These rabbits are not happy and want you to stay away or go away.

1



Rabbit turns and moves away flicking the back feet. Ears may be held against the back.

2



Rabbit is sitting on back legs with front paws raised displaying boxing behaviour. Ears pointed upwards and facing outwards, rabbit may be growling.

3



Rabbit is standing tense, with back legs thumping on the ground. Tail raised, ears pointing upwards and slightly turned outwards, facial muscles are tense and pupils dilated.

4



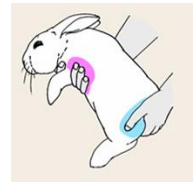
Rabbit is standing tense with body down and weight towards the back, head tilted upwards, mouth open and teeth visible. Ears held back and lowered, tail raised, pupils dilated.

BONDING WITH YOUR BUNNY

- Your bunny may be shy when you first start, and it can take some time for them to learn to trust you. To begin to build trust, start by sitting or lying on the floor nearby while they explore their surroundings. Allow your bunny to come to you and resist the urge to pet them when they first approach you. In doing so, they learn that you are not a threat to them.
- Once your rabbit is comfortable with you, begin to offer treats while saying his/her name. This teaches your bunny that hands bring good things and helps him/her get used to your voice.
- Advance to petting once your rabbit readily accepts treats from your hands. Slowly approach from above his/her head and gently stroke upwards from the nose to the forehead. Try to avoid coming from directly in front of his/her face, as this is a blind spot and will likely startle them at first. You may need to offer treats with one hand as an incentive while you try to pet him/her with your other hand. Once he/she accepts forehead petting, gradually expand to the ears, cheeks, shoulders, and back to discover what your rabbit enjoys most. Avoid petting the tail, feet, or belly as most rabbits do not enjoy being touched in these areas.

HANDLING

- Most rabbits do not like to be picked up as this feels a lot like being carried off by a predator. For this reason it is best to limit handling of your rabbit to situations in which it is necessary. To prevent injuries to yourself and your bunny, use the following steps to provide adequate support each time you pick up your rabbit:
 - Place one hand on your rabbit's chest and the other hand on his/her bottom. **Never** let your rabbit "dangle" as they have very fragile backs and can sustain serious injuries if they kick while hanging. Similarly, **never** scruff a rabbit or pick them up by their ears as it is very painful and extremely likely to result in injuries!
 - Smoothly lift your rabbit off the ground and place him/her gently, yet firmly against your chest. You can either hold your bunny sideways with your arm across his/her body or facing you with his/her feet against your chest.
 - To put your rabbit down, get as close to the ground as you can and gently release him/her.



LITTER TRAINING

- Just like cats, rabbits can be trained to use a litterbox! To start, prepare a litterbox by covering the bottom of the box with a layer of wood pellets and placing a handful of hay at one end. Bunnies poop where they eat, so placing the hay directly in the box encourages them to go there. You can also place their food dish in with the hay if it doesn't take up too much room.
- Rabbits often like to go in corners, so start by placing the box in a corner of his/her pen. If he/she repeatedly goes in a different place, move the litterbox to that spot to encourage use.
- Place any stray poops you find inside the litterbox. If your rabbit pees outside of the box, soak up the urine with a paper towel and place the towel in the box. Clean the urine spot with a mix of apple cider vinegar and water to remove the scent and deter them from going there again. By doing these things, your rabbit will eventually learn to go only in the litterbox.

HEALTH

SPAYING & NEUTERING

- Getting your rabbit fixed is highly recommended, not only because it will improve territorial behaviors and eliminate the risk of unwanted litters, but also because it reduces the risk of a variety of diseases and increases the lifespan of your rabbit. Spaying is particularly important for females as up to 80% of females develop uterine cancer by 5 years of age if left intact.
- Rabbits can be fixed as soon as they reach sexual maturity. For males, this typically occurs at around 3 months of age, whereas females typically mature after 4 months of age. For smaller breed bunnies, your vet may opt to wait until 6 months of age before spaying a female rabbit to ensure she has reached a healthy weight and will better tolerate the surgery.
- It is important to keep in mind that while there are risks associated with any type of surgery, the risks of spaying or neutering are minimal when performed by a trained veterinarian. A good rabbit veterinarian will assess your rabbit prior to the surgery and will only perform the procedure if the risks of remaining intact outweigh the risks of undergoing the procedure.

FINDING A VETERINARIAN

- Despite being a small animal, rabbits are considered “exotics” in the veterinary world and only certain veterinarians can provide proper care. To find a rabbit-savvy vet in your area, ask your local rabbit rescue/shelter or a fellow rabbit owner who they would recommend. You can also check the House Rabbit Society website or contact the Association of Exotic Mammal Veterinarians (AEMV) to see if there is a registered exotics veterinarian near you.

GENERAL CARE

- **Grooming:** Rabbits require regular grooming to maintain a clean and healthy coat. While most bunnies will groom themselves, they will need your help at sometimes, particularly if they have longer fur or have difficulty reaching. Daily grooming is necessary for long-haired breeds as their fur is very prone to matting. Rabbits with medium or short coats generally need extra grooming during periods of heavy shedding. There are a variety of brushes and combs available, though many owners like Furminator® type brushes and slicker combs. Regardless of which one you use, be gentle when brushing as bunnies have very delicate skin. If your bun develops mats, use a mat splitter to remove it. Avoid scissors as it is very easy to nick the skin.
- **Bathing:** Rabbits should NOT be given full body baths except under very special circumstances after consultation with your vet. Baths are extremely stressful for rabbits and they lose body heat quickly when wet, both of which can put your bun in shock. Some buns may occasionally need to have their bottoms cleaned to remove stuck stool or urine. If this happens, spot clean the area with a wet cloth, gently dip the soiled area in a sink/tub filled with 2–3 inches of water, or hold your bun and place the soiled area under a running faucet. Make sure to thoroughly dry the area after cleaning to prevent irritation and infection.
- **Nail Trims:** Nails should be trimmed regularly as long nails make hopping difficult, and are prone to catching on things and breaking. When trimming nails, make sure you have a good grip on your bun since most do not like nail trims and will try to hop away! To trim your buns nails, first examine the nail and find the quick, a small vein that appears as a dark line in the nail. For buns with dark nails, you may need a flashlight to help you see it. Cut the nail just past the quick using clippers designed for pets. If you accidentally nick the quick and the

nail starts bleeding, dab a bit of styptic powder onto the nail and wait for it to stop bleeding.

BASIC HEALTH

- Being prey animals, rabbits are exceptionally good at hiding illness. As such, it is important to become familiar with your rabbit and to watch for any changes in behavior or bodily functions.

Cecal Pellets:



Cecotropes:



String of Pearls:



- Abnormal stool is often one of the first signs that something isn't quite right, and changes can be helpful in identifying GI stasis, one of the common causes of death in rabbits.

Normal Stool

- **Cecal Pellets** = Hard, round marbles or “cocoa puffs” that consist of undigested fiber. The average rabbit will produce ~300 of these per day!
- **Cecotropes** = Soft grape-like clusters made up of protein, vitamins, and essential bacteria. Rabbits must re-ingest these to maintain adequate nutrition and do so almost immediately, so you should

only see these occasionally.

Abnormal Stool

- **String of Pearls** = Cecal pellets strung together by pieces of hair. This is common during molts and is ok if there are only a few.
If you see several, groom your bun to prevent them from ingesting too much fur and getting a blockage.
- **Small, Scant Droppings** = Cecal pellets that are smaller than normal and fewer in number. This is a sign that digestion is slow and often precedes an episode of GI stasis. Offer your rabbit a favorite treat and if he/she accepts, consider offering canned pumpkin, applesauce, or wetted greens and monitor them closely. If he/she refuses, contact your vet ASAP!
- **Soft Stool** = Squishy cecal pellets or pudding-like stools. This usually due to a lack of fiber and/or diet too rich in sugar. If you see this, cut down on treats and encourage them to eat more hay. You may also need to switch to a higher fiber pellet. If the problem persists, your bun will need to see a vet.
- **Diarrhea** = True diarrhea is profuse, watery, and can be bloody. Diarrhea is a medical emergency for rabbits as they dehydrate very quickly and can go into shock without prompt treatment.

Gastrointestinal (GI) Stasis

- When the muscle contractions that move food through the intestines slow down or stop, this is referred to as GI stasis. In rabbits, slowing of the intestines allows bacteria in the gut to proliferate. These bacteria produce gas that becomes extremely painful as it builds, and some will also produce deadly toxins. The pain and toxins will lead to hypothermia, and if not treated within 48 hours, the rabbit will die from shock.
- There are several things that can cause a rabbit to go into stasis, including stress, dehydration, pain, intestinal blockages, or inadequate fiber intake. The two key signs to *watch for are a refusal to eat or an absence of stool in 12 hours*. Other symptoms include lethargy, tooth grinding, hunching, reluctance to move, or a bloated abdomen. *If you see any of these signs, get your bunny to a rabbit-savvy vet immediately!*

Common ailments

- While GI problems are the most common, rabbits can suffer from a variety of other ailments. The following is a list of things to watch for that will tell you if your bun needs to see a vet:
 - **General:** Monitor for lethargy, loss of appetite, or signs of pain, such as: hunching, a reluctance to move, moving slowly/with effort, loud tooth grinding, hiding, aggression, depression, or apathy. If your bun exhibits any of these symptoms, see a vet immediately!
 - **Head & Ears:** Watch for head shaking, head tilting, ear scratching, sores, irritated skin, and abnormal discharges. These may be signs of conditions such as ear mites, ear infections, or excess earwax. Head tilting is particularly concerning as this could be a sign of a rare but dangerous disease caused by *Encephalitozoon cuniculi* (E. cuniculi). Head tilting is usually the first sign, and is quickly followed by loss of balance, paralysis, and seizures. If your bun has any of these symptoms, he/she needs to see a vet ASAP!
 - **Eyes:** Check for redness, weepy or watery eyes, and abnormal crusts or discharges. Presence of these may indicate allergies, an infection, or teeth that are overgrowing. Prompt treatment is needed to prevent complications, so contact your vet right away.

- **Mouth & Teeth:** Look for drooling, dropping food while eating, avoidance of “hard” foods or loss of appetite. These are signs that your bun may have overgrown teeth or an abscessed tooth. Because these conditions make eating very painful, your bun should be seen as soon as possible to avoid an emergency visit for an episode of GI stasis.
- **Nose & Lungs:** Listen for any abnormal breathing or sneezing and check to see if your bun has a runny nose. The presence of any of these may indicate your bun has a respiratory infection, allergies, or an underlying heart problem. A vet visit is needed to determine the cause, with immediate care required if your bun is lethargic or breathing is labored.
- **Fur & Skin:** Check for lumps, cuts, sores, itching, flaky or irritated skin, and hair loss. These may be signs of conditions such as fur mites, fleas, ringworm, or fly strike. Fly strike occurs when a fly lays eggs in an open wound or near a dirty bottom and the maggots that hatch burrow into the skin. If you see eggs or maggots, or areas of matted fur with underlying irritated skin, get to a vet ASAP!
- **Feet:** Examine each foot for cuts, sores, red or irritated skin, cuts or sores. Sores are often the result of dirty environments, wire flooring, or inactivity secondary to obesity or a lack of space to move. Also make sure the nails are not broken or bleeding. Exposed nail beds are very prone to infection, which is also why bunnies should never be declawed.
- **Urine:** Normal rabbit urine ranges from light yellow to a deep orange-red or rust color. Bright red urine indicates blood is present and should be evaluated by a vet. White crusts around urine spots are due to too much calcium, which can lead to bladder stones. Check your bun’s diet and switch out any high-calcium foods.