

Rabbit Diet



Adapted from the Small Mammal Health Series by Susan Brown, DVM
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Diet

A healthy rabbit should be slim and sleek. You should be able to feel the ribs just under the skin without a thick layer of fat. Obesity is a problem with rabbits that eat a diet too high in calories and that don't get enough exercise. The hindquarters should not have any folds of skin covering or interfering with the digestive tract or urinary openings. The dewlaps in females should not be so large as to interfere with grooming or eating.

Hay

Hay is one of the most important parts of your pet's diet. Hay should be available at all times in your pet's cage. Hay is appropriate for all ages of rabbits, starting at weaning. Hay provides a number of important things for your rabbit's health. It is:

- Rich in nutrients such as vitamins, minerals and proteins
- Provides "food" for the micro-organisms that live in the GI tract
- Provides indigestible fiber that promotes healthy motility (movement of contents) of the intestinal tract
- Provides healthy chewing activity to promote proper wear of the teeth

Remember that rabbits are designed to live primarily on a diet of grasses and leaves, therefore hay can provide a good portion of that diet. There are two basic types of hay available: grass and legume.

Grass hays are made from timothy, meadow, oat, rye, barley or Bermuda grasses. These are the healthiest hays to feed. If at all possible, try to feed mixed grass hay or provide two or more individual types. It is preferable to feed a variety of grass hays, rather than one type of grass hay. Grass hays are rich in nutrients but provide the lower energy diet appropriate for a house rabbit. If you have a choice, choose sun-dried hay which has retained more of its nutrients than commercially dried hay. Providing a regular source of grass hay is a major key in preventing many diseases in a pet rabbit.

Legume hays are made from alfalfa, clover, peas, beans or peanuts. These hays are loaded with nutrients but have more calories, calcium, and protein than a house rabbit needs. Feeding only legume hays may lead to GI disorders and obesity and for this reason we do not recommend feeding these hays. If you mix legume hay with grass hay, the rabbit may only pick out the calorie-rich legume hay and thus overload himself with calories, so we do not recommend mixing grass and legume hay. A small amount of alfalfa hay used as a treat is fine.

Do not feed straw. Straw is devoid of most nutrients and although it is not harmful in small amounts, it will lead to serious nutritional deficiencies if it is a major part of the rabbit's diet.

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Fresh Leafy Greens

Fresh greens are the next most important food in the rabbit's diet. Leafy greens provide all the same benefits listed for hay. They also contain a wider variety of micronutrients and, importantly, provide water in the diet. Even though you may be providing a water container in the cage, rabbits do not always drink as much as they should. You may notice that if you feed your pet a lot of greens, (s)he may drink very little water, which is normal.

*Please note: It is NOT appropriate to feed your rabbit a diet comprised primarily of fresh greens. The green foods available in the grocery stores do not have enough concentrated calories to sustain a rabbit's normal body weight when this is the primary source of food. Greens are an important addition to the diet, but should never be the total diet.

It is important that your rabbit is on a steady diet of hay prior to introducing leafy greens into the diet. This will help develop appropriate flora of the GI tract. In this way you can avoid the problem of soft stools that is occasionally seen when you first add greens to a rabbit's diet. Occasional soft stools are not dangerous; it is only the rabbit's intestinal tract making changes of the motility and flora. However, the soft stools can be messy, so making the change to hay first for a month at minimum will help avoid this problem. Greens are appropriate for any age of rabbit.

When selecting and using fresh green foods follow these guidelines:

- Buy (or grow) organic if possible
- Wash greens first
- Make sure your rabbit is eating hay well first
- Introduce greens a little at a time over several days and monitor the stools for any change
- Feed a variety of leafy greens daily- a minimum would be three varieties. Variety provides a wider range of micronutrients as well as mental stimulation for your pet.
- Feed a maximum of about **1 packed cup of leafy greens per 2 pounds of body weight one to three times a day.**

There are a huge variety of leafy greens that you can offer your pet. You might even consider growing some yourself! This would include grass that you grow in your yard but it can only be used if there have been no pesticides or other chemicals used on it. You might consider growing a patch of grass just for your bunnies. Dandelions that have not been treated with any chemicals are an excellent source of nutrition. In general, the darker green a food is, the higher the nutritional value. This is why, for instance, we do not recommend iceberg lettuce. It is not dangerous, but is extremely low in nutritional content. You can use packages of mixed salad greens if they contain dark colored greens and are not comprised primarily of iceberg lettuce or romaine lettuce.

Here are some of the leafy greens you might consider:

Baby greens	Dock
Bok Choy	Endive
Borage	Escarole
Basil	Kale
Broccoli (leaves and top)	Leaf lettuce
Brussels sprouts	Mustard greens
Cabbage (red, green)	Parsley (Italian or flat leaf best)
Carrot or Beet tops	Radicchio
Celery (leaves are good)	Romaine lettuce
Chicory	Swiss chard (any color)
Collard greens	Water cress
Dandelion greens (and flower)	

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Commercial Rabbit Pellets

Rabbit pellets should comprise only a small portion of a pet rabbit's diet. Feeding pellets free choice can lead to obesity and other diseases. This is because:

- Pellets have a low indigestible fiber content which can lead to a sluggish GI tract and eventually more serious GI disease, including GI stasis.
- A pellet-only diet doesn't promote normal tooth wear due to the concentrated nature of the food - a couple of chews and the food is pulverized as opposed to the much longer chewing time it takes to break down hay or greens.
- The concentrated, dry nature of pellets may not promote normal water intake, resulting in potential urinary tract disease. A rabbit's natural diet would not be this consistently low in moisture.

The recommendation for feeding pellets would be that they comprise no more than 10% of the healthy rabbit's diet. The amount to feed a healthy rabbit would be approximately **1/8 cup of pellets per 4 lbs of body weight daily**. Pellets will provide some of the trace nutrients. When selecting a pellet look for the following:

- 18% or higher in fiber
- 2.5% or lower in fat
- 16% or less in protein
- 2% or less in calcium

Do not buy pellet mixes that also contain seeds, dried fruits or nuts. Buy pellets based on grass hays (timothy, orchard grass, brome, etc) NOT alfalfa hay, unless advised otherwise by your veterinarian.

NOTE: For rabbits that have chronic GI problems or have issues of excessive weight, it may be preferable to completely remove pellets from the diet. Please consult your veterinarian about changing to this type of diet if needed.

Fruits and other Vegetables (Treat Foods)

Depending on the time of year, rabbits in the wild would have access to additional foods such as fruits, vegetables and flowers. Since these items do not make up the majority of the diet, we recommend feeding these as treats in limited quantities. Another reason for limiting the amount is because some rabbits like these foods so well that they will eat them to the exclusion of all others, thereby creating a potential for health problems. Foods from this list can be fed daily and you may even wish to use them as part of a reward or training system.

*TIP: Find at least one food in this list that your rabbit likes and feed a **SMALL** amount daily to check on how good your rabbit's appetite is. If your rabbit will not eat her treat food, then there may be other problems brewing and you need to keep a close eye on your pet for health problems.

These treat foods are far healthier (and less expensive) than the commercial treat foods sold for rabbits. Sticking to natural and healthy treats for your pet is a better alternative.

For treat foods, follow the same guidelines listed above for selecting and using green foods with the exception of the amount. You can feed your pet a total of **1 tablespoon per day** of any combination of the foods below:

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Apple	Green or red bell peppers
Bean or Alfalfa sprouts	Kiwi Fruit
Blackberries	Mango
Blueberries	Melons
Cactus fruit	Papaya
Carrots	Pea pods (flat, NO peas)
Cherries	Peach
Cranberries	Pear
Edible flowers from the garden (organically grown and NOT from a florist) such as roses, nasturtiums, day lilies, pansies and snap dragons	Pineapple
	Raspberries
	Squash

Dried fruit can be used as well, but since it is so concentrated, use only one third the amount as fresh. Instead of one tablespoon use one teaspoon. We do not recommend feeding bananas and grapes as rabbits sometimes become "addicted" to these foods.

Foods To Avoid

A diet of grass hay and leafy greens with small amounts of fruits and vegetables contains all the nutrition necessary for a pet rabbit. Unfortunately there are many commercial treat foods sold for rabbits that contain high levels of starch and fat. In addition, some people still feel that it is necessary to feed rabbits high starch foods such as cereals, cakes and cookies. Although a pet rabbit can eat very small amounts of starchy or fatty foods without ill effect, the problem is that people often feed excess amounts because the rabbits eat these foods so greedily. Our recommendation is to completely avoid high starch and/or fat foods for your pet. In this way you will avoid any potential problems these foods can cause, including obesity and serious GI disease. It is always easier to prevent than to treat a disease.

Examples of high fat and/or starch foods to AVOID include:

Grains	Nuts
Beans (of any kind)	Oats
Breads	Peas
Cereals	Refined sugar
Chocolate	Seeds
Corn	Wheat

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Vitamins/Lactobacillus/Enzymes

Vitamins are not necessary for the healthy rabbit. Rabbits will obtain all the vitamins they need from their cecotropes, grass hay and fresh green foods, and small amount of pellets. In addition, rabbits on a healthy diet do not need a salt or mineral block.

Lactobacillus or acidophilus are bacteria found in the GI tracts of a number of different species. Lactobacillus is also found in yogurt cultures and probiotics. However, there is no benefit to feeding these bacteria to the rabbit because Lactobacillus does not hold an important place in the rabbit GI tract. A rabbit on a healthy diet of grass hay and leafy greens should be able to maintain a normal population of bacteria without additional supplementation.

Some older texts recommend feeding digestive enzymes (such as papain which is found in pineapple and papaya) to rabbits to help dissolve hairballs. This is of no benefit to the rabbit because such products do not dissolve hair and the problem is not the hair anyway. Although these products will not harm the rabbit, they are of no use.

Cecotropes

Rabbits are herbivores with a gastrointestinal (GI) tract that allows them to extract nutrients from a variety of sources. One of the keys to their success is the production of cecotropes, which are a type of dropping that is eaten by the rabbit directly from the anus and then digested. These droppings are not made up of waste materials but rather are rich in organisms that have come from the area of the intestinal tract called the cecum. These organisms are packed with nutrients such as amino acids (the building blocks of proteins), fatty acids and a variety of vitamins.

Healthy rabbits will eat their cecotropes directly from the anus and you will not see these droppings in the cage. If a rabbit has a medical problem that prevents him from reaching the anus, then you may see cecotropes on the cage floor. Cecotropes are elongated, greenish in color, coated in mucous and have a strong odor. Consult your veterinarian if you see a large number of cecotropes in the cage because your rabbit may be missing vital nutrition.

Water

Water should always be available and changed daily. A dirty water container can be a breeding ground for bacteria. Use either a water bottle or a heavy bowl that is weighted or secured to the side of the cage so that it does not tip over. Do not use medications or vitamins in the water because your pet may not drink the water if the taste or color is altered. Please remember that if your pet is eating a large quantity of greens that the water consumption may be minimal.

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www.Rabbit.org