

## Suggested Vegetables and Fruits for a Rabbit Diet

Rabbits in the wild all over the world successfully consume a wide variety of plant material. Various types of dry and fresh grasses and plants with leaves comprise the largest portion of the wild rabbit diet. Rabbits will also eat bark on trees, tender twigs and sprouts, fruits, seeds and other nutritious foods in many small amounts. This is important to know when we decide what a healthy diet for our house rabbits is.



*The majority of the house rabbit diet should be composed of grass hay (any variety).* Grass hay is rich in Vitamin A and D as well as calcium, protein and other nutrients. Eating hay promotes healthy teeth and gastrointestinal tract and should be available to your rabbit at all times. Varying the type of grass hay or mixing hays is a great idea (such as timothy, orchard, oat hay, brome, etc). Avoid the use of alfalfa hay as the primary source of hay due to the fact it is very high in calories and protein, far more than the average house rabbit needs. Alfalfa is not a grass, but rather a legume (in the pea and bean family).

Fresh foods are also an important part of your rabbit's diet and they provide additional nutrients as well as different textures and tastes, which are enriching for your friend as well. Fresh foods also provide more moisture in the diet, which is good for kidney and bladder function. *The bulk of fresh foods should be made up of leafy greens (about 75% of the fresh part of the diet).* Any leafy green that is safe for a human or a horse to eat is safe for a rabbit to consume.



*An approximate amount to feed would be around 1 cup of greens for 2 lbs of rabbit body weight once a day or divided into multiple feedings a day.*

Many plants contain naturally occurring chemicals called alkaloids, which are mild toxins that protect plants in the wild. The one most talked about with rabbits is oxalic acid and it is completely harmless to animals or humans when consumed in small amounts. The amount of oxalic acid within each plant can vary significantly due to several factors including the composition of the soil the plant grew in, the time of year and the age of the plant. Most of the fresh vegetables we feed rabbits have a low to zero level of oxalic acid, but a few, most notably parsley, mustard greens and spinach have relatively high levels. (Note that kale, which is often implicated as a high oxalate food is actually very low in oxalates). The toxicity of oxalic acid comes with feeding large quantities of foods high in this chemical and can result in tingling of the skin, the mouth and damage to the kidneys over time. These foods are nutritious and do not need to be excluded from the diet if you feed them appropriately. I recommend feeding a minimum of at least 3 types of leafy greens a day (and only one of them should be from the group listed above) Don't feed the same greens all the time from week to week if possible, mix it up. For instance if you feed parsley this week, then leave it out of the diet for next week and use something else. Rotating the greens will also give your bunny variety in taste, texture and general nutrition!

Some folks are concerned that you rabbits need to acquire a significant amount of vitamin A from greens. As mentioned above, hay is rich in vitamin A, so it is unnecessary to be concerned about the specific vitamin A content of the greens. Just for information though, kale is extremely rich in vitamin A as well as most of the leaf lettuces. And while we are on the subject of vitamins, rabbits make their own vitamin C in their bodies, unlike humans who have to get vitamin C through their diet. You may know that dark green leafy vegetables and red peppers have more vitamin C per weight than citrus fruits!

Some people are concerned about feeding foods that cause gastrointestinal (GI) gas in people such as broccoli. A rabbit's GI tract is not the same as a human's and many of the foods that may cause gas in a human do not cause gas in a rabbit. The most common types of foods that do create havoc in the rabbit's GI tract are those that are high in starch and sugars because they create a change in the pH of the cecum and eventually can throw the whole system off. The result can be serious GI disease. Foods that are notorious for causing rabbit GI problems when fed improperly are grains of any kind and legumes (beans, peas, etc). Even starchy root

vegetables and fruits if fed to excess with their high load of sugars and starch could be a problem and should only be fed as a very small part of the diet.

There has also been discussion about feeding vegetables that are goitrogenic in humans (causing a goiter) more notoriously those in the broccoli/cabbage family. One study done on rabbits indicated that it would take several weeks of exclusively feeding huge quantities of these foods to see any abnormalities in the blood. This is so far removed from normal feeding instructions for rabbits that there is no cause for concern in feeding these nutritious foods.

Beyond leafy greens you can feed other vegetables such as root vegetables or “flowers” such as broccoli and cauliflower. *These foods are often higher in starch or sugars and should be fed in lesser amounts than the leafy greens.* Avoid foods in the onion family such as leeks, chives and onions because eating these foods could cause blood abnormalities. *A good amount of “other” vegetables (non leafy greens) to feed your rabbit would be about 1 tablespoon per 2 lbs of body weight per day in one meal or divided into two or more.*

*Fruits can also be fed in small amounts.* In the wild these would be special high calorie foods obtained only at certain times of the year. *Fruits make great training treats!* You also might choose to hand-feed the fruit portion of the diet as part of developing a close bond with your bunny and also to make sure he has an appetite every day. It is a great way to see if your bunny is feeling good when you observe if he takes his fruit treat every morning! If he doesn't want to eat his treat, it is time to call your veterinarian. Remember that dried fruits are about 3 times as concentrated as the fresh variety so feed less of those. Rabbits, like many animals naturally gravitate towards high calorie foods such as those high in sugar or starch. This is a protective device from the wild days when they could never be sure when or if they would get the next meal. When a plant would produce fruit, it is for a limited time and all the animals in the area would want to gobble these gems up quickly! This means that rabbits cannot limit themselves when given sugary or starchy foods if left to their own devices! Overfeeding fruits can result in a weight gain or GI upset so it is up to you to feed these foods in limited amounts. *An approximate amount of fruit to feed your rabbit is a teaspoon per 2 lbs of body weight daily in one feeding or divided into multiple feedings.*

**IMPORTANT:** *Before introducing any fresh foods to a rabbit it is best if he has been eating grass hay for a minimum of 2 weeks.* The grass hay will help to get his GI tract motility and flora in good working order so that he will be able to accept new foods more easily. *When introducing new fresh foods to any rabbit's diet it is best to go slowly to allow the gastrointestinal tract and all its important microorganisms to adjust.* Introduce one new food every three days and keep a watch on the stools. It is rare for a rabbit that has been on a hay diet first, to have any problems using this method, but if you note softer stools that persist over a couple of days, then you might want to remove that food from your bunny's diet. Keep a list as you go of the foods that your rabbit has successfully eaten; you will then have a handy shopping list when you go to the store!

#### LIST OF POSSIBLE FOODS TO FEED

NOTE: It is always preferable to buy organic produce if at all possible. If collecting wild foods such as dandelion greens make sure they are from a pesticide-free area. All fresh foods

regardless of the source should be washed or scrubbed (in the case of hard vegetables) before serving them to your rabbit.

## LEAFY GREENS

These foods should make up about 75% of the fresh portion of your rabbit's diet (about 1 packed cup per 2 lbs of body weight per day).

*Leafy Greens I* (need to be rotated due to oxalic acid content and only 1 out of three varieties of greens a day should be from this list)

Parsley

Spinach

Mustard greens

Beet greens

Swiss chard

Radish tops

Sprouts (from 1 to 6 days after sprouting, sprouts have higher levels of alkaloids)

Dodgy the bunny, photo by Tammy Brown

*Leafy Greens II* (low in oxalic acid)

Arugula

Carrot tops

Cucumber leaves

Endive

Ecarole

Frisee Lettuce

Kale (all types)

Mache

Red or green lettuce

Romaine lettuce

Spring greens

Turnip greens

Dandelion greens

Mint (any variety)

Basil (any variety)

Watercress

Wheatgrass

Chicory

Raspberry leaves

Cilantro

Radicchio

Bok Choy

Fennel (the leafy tops as well as the base)

Borage leaves

Dill leaves

Yu choy

## NON-LEAFY VEGETABLES



These should be no more than about 15 % of the diet (About 1 tablespoon per 2 lbs of body weight per day).

Carrots

Broccoli (leaves and stems)

Edible flowers (roses, nasturtiums, pansies, hibiscus)

Celery

Bell peppers (any color)

Chinese pea pods (the flat kind without large peas)

Brussel sprouts

Cabbage (any type)

Broccolini

Summer squash

Zucchini squash

FRUITS

These should be no more than 10% of the diet (about 1 teaspoon per 2 lbs of body weight per day). NOTE: unless otherwise stated it is more nutritious to leave the skin on the fruit (particularly if organic), just wash thoroughly. IF you are in doubt about the source of the fruit and you are concerned about chemicals in the skin, then remove it.

Apple (any variety, without stem and seeds)

Cherries (any variety, without the pits)

Pear

Peach

Plum (without the pits)

Kiwi

Papaya

Mango

Berries (any type)

Berries (uncooked)

Pineapple (remove skin)

Banana (remove peel; no more than about 2 1/8 inch slices a day for a 5 lb rabbit...they LOVE this!)

Melons (any – can include peel and seeds)

Star Fruit

Apricot

Currants

Nectarine

