

# Rabbit Husbandry

## Part 2:

# RABBIT HUSBANDRY

## Feeding

by Emma Magnus

Under the new Animal Welfare Act, the Five Freedoms recommend that animals should have a freedom from hunger and thirst.

This means that rabbits should be given continual access to fresh water – but the right amount of feed to keep them fit varies depending on the individual's requirements, the rabbit's lifestyle and the preferences of the owner.

The most important factor is for the rabbit to be fed a diet that is appropriate, keeping their weight steady without them being too fat or too thin (if you are unsure, you should be able to feel the ribs but not see them).

There are many different rabbit feeds available and it is easy to be persuaded by price or packaging but confused by the benefits. Listed below are the main ingredients of a healthy diet – fibre, green leaves, pellets/mix and (occasional) treats.

### Fibre

The rabbit evolved to eat high quantities of a low quality food i.e. grass so it is no surprise that rabbits need to eat high quantities of plant fibre to stay healthy. Plant fibre is also known as cellulose and is found in vegetation. Suitable high fibre foods for rabbits include hay, straw, alfalfa, grass and leafy green vegetables.

Without fibre the sensitive digestive system of the rabbit can fail, as it requires an even supply of long-strand fibre to ensure constant gut movement.

If the motility of the rabbit's gut is affected, this can lead to problems such as constipation, bloat or diarrhoea.

Feeding a diet high in fibre increases the amount of time that your rabbit spends eating. We know that the wild rabbit can spend up to 70% of its time outside the burrow grazing – this means approximately 4 or 5 hours every day. Most commercial rabbit foods take the rabbit a short amount of time to eat leaving them with lots of spare time but, perhaps most importantly, their teeth may not be worn down effectively.

When a rabbit eats hay it takes several seconds for them to eat each strand, and whilst this is happening the teeth are rubbing together equally. As a rabbit's teeth grow continuously throughout their life it is important that they are worn down by the continual action of tearing and grinding.

Increasing the amount of time that a rabbit spends eating in addition to feeding a fibrous diet can help to reduce or prevent behavioural problems. Rabbits that are destructive or over groom themselves or another rabbit may be reacting to a lack of fibre in their diet.

Rabbits in pain from dental disease or digestive disturbances can also become withdrawn or aggressive. Bored rabbits are also likely to be more destructive particularly in the home where hay is usually not offered as it is considered too messy.

A diet that is high in fibre can therefore prevent a rabbit developing digestive problems, dental disease, behavioural problems, bladder stones, obesity and fly strike.

Fibre should make up the majority of the rabbit's diet each day with continual access to good quality hay, straw or grass and also some greens to nibble on. Hay can be stuffed into a hay rack to keep it clean.

There are several types of hay or grass available:

*Timothy hay* – this type of grass seed hay is considered to be very good for rabbits due to the high ratio of stem to leaf which leads to high levels of fibre, particularly in the first cut of the growing season. Timothy hay is not commonly grown in the UK so is imported from America and Canada.

*Barn dried hay* – the hay is dried using forced draught-ventilation which helps to remove moulds and spores. The resulting grass hay is easy for animals to digest and has retained most of its nutrients. Some producers medicate the hay to remove any bacteria.

*Meadow hay* – contains a variety of grasses and may contain dried flowers and seed heads. It is quite easy for rabbits to digest but must be free from mould, slightly green and should have a sweet odour.

*Alfalfa hay* – alfalfa is legume hay, resembling clover with clusters of small purple flowers. It provides a very good source of fibre and protein but also contains compounds called oxalates that can cause kidney problems in some individuals.

*Grasses* – dried grass can contain high levels of fibre and minerals and is often cut short which makes it less messy to feed. Fresh grass from the garden is acceptable in small amounts but must not be fed if there is a risk of contamination with fertilisers or animal urine nor if it has been cut using a lawnmower due to effect of fuel fumes.

You can make your own hay by cutting grass and nettles early in the summer and drying them (without heating) by hanging them or spreading out on wire racks and turning regularly.

Always ensure that hay or dried grass is stored in an area that is dry and well-ventilated to prevent mould.

### Green leaves

Green vegetables (such as cabbage, broccoli, greens, kale, carrot tops), herbs (such as basil and parsley) as well as plant matter (such as dandelion, plantain and blackberry leaves) can add some variety and fibre to the rabbit's diet.

They should be introduced gradually, particularly to young rabbits, and always washed first.

Contrary to folklore, rabbits should not eat some lettuces (such as iceberg) as it contains a substance called laudanum which can be harmful in large quantities.

Similarly carrots and apples are not recommended for regular consumption due to their high natural sugar content.

### Pellets and mixes

Pellets and mixes should be seen as a complimentary food alongside hay and green vegetable matter.

Extruded pellets contain all the nutrients, fibre and minerals that the rabbit requires and can be considered a complete food. The extrusion process makes the pellets palatable and easy to digest.

Rabbit mixes are quite colourful and contain a variety of ingredients including dried peas, maize, oats, barley and grass pellets. Some mixes have added molasses that makes them sticky and some have hay included into the mix.

Although the mix is intended to provide a complete meal, some rabbits tend to pick out the best bits and leave the pieces that they don't like. If the owner removes the rabbit's leftovers and replenishes the bowl the rabbit will keep eating only their favourites and will not be getting a complete diet. Only refill a bowl of rabbit mix when it is empty!

Pellets prevent rabbits from selective feeding. However pellets can sometimes contain too much protein and not enough fibre to be beneficial to the rabbit long term. Good pellets should contain at least 18% fibre and less than 16% protein.

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details

Rabbits excrete the calcium that they do not need through their urine and absorb the rest. There are substances in grains and beans called phytic acid and oxalates in some plants (such as spinach) that prevent this absorption leading to a build up and the development of stones within the bladder.

Grains and beans are present in many commercial rabbit mixes.

Pellets and mixes can be fed as a supplement to a high fibre diet – for a medium sized rabbit (such as a Rex or English) this means just one handful a day.

## Water

There must be a continual supply of fresh water either in a bottle or a bowl. The water should be changed daily and bottles cleaned regularly so that they are free of green algae.

Dr Squiggles ([www.birdcareco.com/DrSquiggles](http://www.birdcareco.com/DrSquiggles) or telephone 0845 130 8600) produces a product called Aviclens to help keep water bottles clean whilst Scratch and Newton ([www.scratchandnewton.com](http://www.scratchandnewton.com)) produce a BottleSnug to wrap around the bottle, preventing not just the growth of algae but also frozen water during the colder months.

Many arguments persist that rabbits do not drink water at shows or even drink water during the day but, whilst this may be true for individual rabbits, it is not appropriate to remove the choice for the animal.

For this reason, the British Rabbit Council Show Rule B4.7 states "it is the duty of all exhibitors to ensure that their stock has a supply of water at all shows".

## Treats

We all like treats and we also like to spoil those that we care about, but many of the treats available for rabbits are full of sugar or fat – substances that the rabbit would never eat in the wild. Treats such as those made from hay, hard baked bread, small pieces of vegetables (such as carrots) or some herbs will be rewarding and healthy whilst carrots and fruit should be fed sparingly due to their high sugar content.

## Additives

There are many additives available that are either included in the pellet or mix, or can be added afterwards. In general, if a rabbit is fed a simple diet (as outlined above) there should be no need to supplement the diet with any vitamins, minerals, additives or medications. However, older rabbits or those recuperating from an illness can benefit from a more specialised diet.

*Coccidiostat*: added to pellets (known as ACS pellets) to reduce levels of the parasite *Eimeria* which can cause Coccidiosis.

*Antibiotics*: pellets with antibiotics added can only be obtained on prescription and have been used by breeders who have lost significant numbers of young rabbits at or after weaning to diarrhoea or bloating.

In some circles it is considered that these health problems may arise as a consequence of poor feeding regimes and inter-breeding, but research into this complex problem is continuing.

*Extract of yucca*: is considered to reduce the odours from faeces or urine.

*Echinacea*: is added to help the body's resistance to infections.

*B vitamins*: are responsible for providing energy to the body during the conversion of glucose, from carbohydrates. They are also required for the metabolism of both fats and proteins, as well as the health and maintenance of the body's nervous system.

*Vitamin E*: is an antioxidant and 'neutralises' free radicals within the body. This action helps to prevent cell damage and disease.

## Probiotics

Many rabbit feeds contain a probiotic within their feed under a brand name (such as AviPro) or as water supplements. Probiotics can be helpful for a rabbit that has been suffering a digestive upset to restore balance to the system.

For more information on Probiotics, see the BRC funded research paper on page 26/27 of this issue.

## Caecotrophs

Apart from fibre, the other important factor in the digestive system of the rabbit is the consumption of the caecotrophs (the first set of faeces). These smelly, sticky faeces contain bacteria and vitamins and provide vital nutrients for a healthy gut.

If a rabbit is not fed a diet high in fibre, it can become overweight and not able to reach around to eat these nutritious pellets. If a diet is high in protein but not high in fibre the rabbit might not eat these faeces, so when caecotrophs stick to the rabbit's bottom they become a target for flies and therefore fly strike.

## Overweight rabbits

It is very easy for rabbits to become overweight when we control the amount of food that they have and reduce their territory size so that they have very little opportunity for exercise.

However, obesity has consequences for rabbits as for humans and can reduce fertility and shorten lifespan. Rabbits usually get obese from eating too much of every food other than hay – no rabbit ever got fat on grass!

Removing any treats from the diet is a must as fatty, sugary, starchy treats will mess up the digestive system and provide 'empty' calories.

There are reduced calorie extruded pellets available for pets that can be fed alongside lots of hay. These rabbits also need to be encouraged to exercise and should be put into a run on the lawn or brought into the home on a daily basis. A companion rabbit can get some overweight individuals moving.

## Pregnant / lactating does

Feeding pregnant or lactating does should not require a change of the diet if the rabbit is being fed a high fibre diet. The quantities however need to gradually increase in line with the pregnancy and any concentrated mix or pellet must contain at least 16% protein.

Supplementing the diet with alfalfa should provide sufficient calcium to prevent the lactating doe from developing osteoporosis.

## Growing rabbits

As rabbits become less dependent on their mother's milk they will start to nibble at food so it is important to offer continual access to a good quality hay at this stage and ensure that they are not eating too much of the mother's high protein mix or pellet.

Once they are weaned and starting to grow both the youngsters and the mother can be fed a mix or pellet that contains at least 16% protein as a supplement to the hay along with small amounts of green vegetables and occasional alfalfa to help strong bones develop.

## A word about packaging

Feed manufacturers often pack their products in colourful and eye catching packaging. They do this to encourage people to pick up their brand but also to attract new customers.

In pet shops, we can often buy rabbit food that is sold in clear plastic bags, allowing us to see what we are buying. Although we prefer to see the product it is important to understand that in order to maintain the quality of the product and ensure its nutritional completeness, it is essential to exclude both air and light from the feed.

Dr Sue Huggett from Beaphar agrees: "Letting air near the food leads to oxidation, and could introduce fungal spores or other contaminants. Certain types of light also degrade the value of the vitamins". So, products pre-packed in non-transparent, thick plastic or aluminium packs, with no "window" through which the product can be seen mean that rabbits should be gaining the same level of nutrients in the last scoop of the food as they did with the first.

Emma Magnus is the author of *Keeping Rabbits* (published by Hodder Education).

It is available through the *Fur & Feather* shop for £10.50 including P&P to a UK address.



## Further reading

The BRC *Code of Practice on Feeding Rabbits* is published within the BRC Yearbook.

*Importance of Diet in Rabbits* is a free booklet (part of the members Breeders Pack) obtainable from the British Rabbit Council, Purefoy House, 7 Kirkgate, Newark, Notts NG24 1AD or call 01636 676042 during office hours.

