

## Rabbits

Rabbits make intelligent, friendly and quiet house pets. The average life span for a bunny is 7 to 10 years with records of up to 15 years of age reported. The following information is provided to help you enjoy a happy, healthy relationship with your little friend. In addition to this handout there are a number of excellent books on the topic of rabbit health care that you may wish to consult

## Diet

### Normal Rabbit Weight

Unfortunately, what we thought was a normal rabbit weight in the past has often been an overweight rabbit. Obesity is a problem with rabbits that eat a diet too high in calories and that don't get enough exercise. 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. 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. If you are in doubt about your rabbit's proper weight, please consult your veterinarian.

### Cecotropes

Rabbits are herbivores with a marvelous gastrointestinal (GI) tract that allows them to extract nutrients from a variety of sources. Rabbits were designed to live on a diet composed of large quantities of grasses and leaves. They might also browse on flowers and fruits as they could find them at different times of the year. Rabbits are very successful at making the most out of the food they eat, food that many other animals could not even digest. One of the keys to their success is the production of cecotropes, which are a special 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. In order for the rabbit to get these nutrients, the cecotropes and thus the organisms must be eaten and digested thereby extracting the nutrients. In this way, rabbits can extract the maximum nutrients from low energy food materials. They literally produce some of their own food! Rabbits will eat their cecotropes directly from the anus and you will not see these special droppings in the cage.

If a rabbit has a medical problem that prevents him/her 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. Please consult your veterinarian if you see a large number of cecotropes in the cage because your rabbit may be missing vital nutrition. If a rabbit is eating a diet that is too rich in nutrients, such as one that contains mostly commercial pellets, there may normally be a few cecotropes dropped in the cage.

### Grass Hay

Grass hay is one of the most important parts of your pet's diet. Hay should be provided 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.

- Rich in nutrients such as vitamins, mineral and protein
- Provides "food" for the micro-organisms that make up the cecotropes
- Provides indigestible fiber that promotes healthy motility (movement of contents) of the intestinal tract
- Provide healthy chewing activity to promote proper wear of the teeth (all rabbit teeth grow continuously throughout its life)

- Chewing also provides healthy mental activity which decreases chewing of inappropriate objects such as furniture and wallpaper
- Provides a “full feeling” in the stomach which is satisfying and may also prevent inappropriate chewing

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

- 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 itself with calories, thus we do not recommend mixing grass and legume hay. If you live in an area where only legume hay is available it is preferable to use it rather than no hay at all. However you may wish to limit the amount of hay if your pet experiences excessive weight gain or GI problems.

- Grass hays are made from timothy, meadow, oat, rye, barley or Bermuda grasses. Grass hay availability varies greatly in different areas of the country and the world. You may only be able to obtain one variety where you live. However, if at all possible, try to feed mixed grass hay or provide two or more individual types. Grass hays are rich in nutrients but provide the lower energy diet appropriate for a house rabbit. These are the healthiest hays to feed. If you have a choice, choose sun-dried hay which has retained more of its nutrients than commercially dried hay. 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 diet.

Sources for hay include veterinary clinics, horse barns, feed stores and rabbit clubs. When you buy hay you need to consider the following:

- Buy hay that smells fresh, never buy damp or old hay
- Buy from a reputable source that replenishes the hay frequently
- If you buy from a feed store or horse barn, buy hay that has not been on the top of the pile to prevent contamination with animal or bird droppings.

Hay can be stored at home in a dry place that has good air circulation. Do not close the bag of hay but rather leave it open. Hay can be given to your pet in a variety of ways including in a hay rack on attached to the side of the cage, in a box or basket within the cage or exercise area, or even placed in the litter box. Rabbits often pass stools when they are eating and placing some hay in the litter box can help with bathroom training.

They will not eat soiled hay, so you need not worry about sanitation. Always keep hay in the cage or exercise area and replenish as needed. Providing grass hay in the diet is a major key in preventing many diseases in the pet rabbit.

### **Green Foods**

Green foods are equally as important as hay in the rabbit’s diet. Remember we said that rabbits are designed to eat grasses and leaves, so green foods represent the “leaf” part of the diet. Green foods provide all the same benefits that we 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. Feeding green foods forces the rabbit to take in liquid and thus helps promote healthy GI function as well as kidney and bladder function. You will notice that if you feed your pet a lot of green foods, he/she will drink very little water which is normal.

If your rabbit has never eaten green foods before, we recommend starting him/her on hay first. This will help to make the appropriate changes in the GI tract, including improving movement and production of cecotropes. In this way you can avoid the problem of ‘soft stools’ that is occasionally noted when a rabbit that has never eaten hay or greens is given greens. This is not a dangerous disease; it is only the rabbit’s intestinal tract making changes from its sluggish state to a more active state. However, these soft stools can be messy, so making the change to hay first for a couple of weeks will avoid this problem. Greens are appropriate for any age of rabbit. If a weaned rabbit is eating hay, he can eat greens right away.

When selecting and using green foods follow these guidelines:

- Buy (or grow) organic if possible
- Wash any green foods first
- Feed a variety of green foods daily – a minimum would be three varieties – variety provides a wider range of micronutrients as well as mental stimulation for your pet
- Feed a minimum of 1 packed cup of green foods per 2 pounds of body weight at least once a day, feed more if your pet is eating hay as well, there is no real upper limit

There are two situations that can occur that will alter the manner with which you feed greens. The first situation is where a select green food causes a soft stool. You will know if this is the case within 12 hours of feeding the offending food. If you are feeding a variety of greens, and not sure which one is causing the problem, then feed only one green food every 48 hours until the offending food is identified and then simply remove it from the diet. This is not a dangerous situation, but it can be messy and there is no need to feed a food that is causing a problem. There are many green foods from which to choose.

The second situation concerns rabbits that have lost too much weight that need to gain weight after a serious illness. It is extremely rare to see a rabbit lose too much weight on a diet of hay and green foods, unless the rabbit is not eating the hay and is only eating greens. Hay is a more concentrated food than greens. In any event, if you are trying to put weight back on a rabbit, you can limit the greens to one cup/2lbs of body weight maximum to encourage an increase in hay consumption.

There are a huge variety of green foods 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. And don’t throw away those dandelions when you pull them up, if they have not been treated with any chemicals they 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 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.

Please, no salad dressing!

**Here is a list of some of the green foods you might consider:**

Broccoli (leaves and top) Brussels sprouts Bok choy  
Cabbage (red, green, Chinese) Celery (leaves are good) Chickory  
Chickory Collard greens Dock  
Dandelion greens (and flower) Borage Basil  
Swiss chard (any color) Endive Escarole

Parsley (Italian or flat leaf best) Mustard greens Kale  
Romaine lettuce Leaf lettuce Baby greens  
Water cress Radicchio Carrot/beet tops

### **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 special items 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. These treat foods are far healthier (and less expensive) than the commercial treat foods sold for rabbits. Commercial treat foods should be totally avoided because they are loaded with starch and fat and if fed in quantity can cause serious health problems. Stick to “natural” and healthy treats for your pet.

Follow the same guidelines as listed for selecting and using green foods with the exception of the amount. You can feed your pet a total of 1 heaping tablespoon per 2 pounds of body weight per day of any combination of the foods below:

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

Dried fruit can be used as well, but since it is so concentrated, use only half the amount as fresh. We do not recommend feeding bananas and grapes as rabbits sometimes become “addicted” to these foods. If you do choose to feed them, watch your pet carefully to ensure he/she is also eating sufficient quantities of green foods and hay.

### **Forbidden Foods**

A diet of grass hay and green foods with small amounts of fruits and vegetables contains all the nutrition necessary for the 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. 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:

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

**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 if your pet is eating a large quantity of greens that the water consumption may be minimal.

**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 green foods. The misuse of vitamins can cause serious disease. If your pet becomes ill, particularly if he/she is unable to eat the cecotropes, then your veterinarian may prescribe vitamin therapy. Please do not use supplemental vitamins in a healthy pet. 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. In some older texts there was a recommendation to feed rabbits yogurt (which contains active cultures of these organisms) to improve the health of the GI tract. 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 and adult rabbits may not be able to adequately digest dairy products. Other products, called probiotics, that contain bacteria more specific to the rabbit GI tract, are available but their benefits are still controversial. A rabbit on a healthy diet of grass hay and green foods should be able to maintain a normal population of bacteria without additional supplementation. We do not recommend the routine use of probiotics in the healthy rabbit.

Some older texts recommend feeding digestive enzymes 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. (See handout Hairballs: Fact or Fiction for more information on this disease). Although these products will not harm the rabbit, they are of no use.

**Commercial Rabbit Pellets**

It may seem odd that this topic is the last on our diet list. This is because we feel that commercial rabbit pellets DO NOT need to be part of a healthy house rabbit diet. As mentioned several times, rabbits gain all the nutrition they need from a grass hay and green foods diet along with their cecotropes. In addition, these foods promote a healthy GI tract and proper wear for the teeth.

Pellets were originally developed for the rabbit in the meat, fur and laboratory animal industry to provide a uniform and highly concentrated food that could easily be fed to large numbers of animals. The pellets are loaded with concentrated nutrition to promote rapid growth. Rabbits in these industries have a shortened life span, unlike the house rabbit. Commercial pellets work well in these industries, but can wreak havoc with the house rabbit.

The problems that a diet comprised primarily of commercial pellets can create in the house rabbit include:

- High calorie content can lead to obesity – easy to overfeed because the rabbit is always acting “hungry”
- High protein content can lead to eating less cecotropes which are dropped in the cage
- Low indigestible fiber content can lead to a sluggish GI tract and eventually more serious GI disease including complete GI shutdown
- Doesn’t promote normal tooth wear due to the concentrated nature of the food – a couple of chews and the food is pulverized
- Lack of sufficient chewing activity and “full feeling” in stomach due to concentrated nature of the food may lead

to inappropriate or excessive chewing on furniture, plants, wallboard, etc. – could be related to “boredom”?

- Concentrated, dry nature of food may not promote normal water intake resulting in potential urinary tract disease

There have been improvements in a few of the commercial pellet brands available to the public, including increased indigestible fiber levels and decreased calorie, protein and calcium content. There have also been some unfortunate changes such as adding seeds and nuts or sugars to the diet, which are all detrimental to your pet. However it still remains that pellets are not a necessary component of a healthy house rabbit diet and need not be fed. Remember that rabbits were designed to eat a diet comprised of a large volume of grasses and leaves, not a low volume, highly concentrated diet. Rabbits in the wild do not need to come to a feed station for a meal of pellets to survive and our pets do not need this either!

So, are there any circumstances where we might consider feeding pellets to our pets?

The following is a list of situations where a good quality commercial pellet might be useful as part of a diet, but not the complete diet.

- In households where hay cannot be used due to human allergies or unavailability
- To implement a weight gain most often related to a debilitating illness
- When the owners are unable to feed a varied diet of good quality grass hay and a variety of green foods.

If we really want to provide the healthiest diet for our pets we should be striving to reproduce its natural diet, not taking the “easy” way out for our own convenience. Providing a healthy diet for a rabbit is neither difficult nor expensive and in addition will save you many dollars in veterinary bills. The number one cause of disease in the rabbit remains an inappropriate diet, and the number one prevention for these diseases is a diet of quality grass hay and a variety of green foods. If you do need to feed pellets for any reason then buy those that are at least 18% or higher in fiber, 2.5% or lower in fat, 16% or less in protein, and 1.0 % or less in calcium. Do not buy pellet mixes that also contain seeds, dried fruits or nuts. Please consult your veterinarian for the amount that you need to feed your pet if you fall into one of these categories. However, try to avoid feeding your rabbit a diet of exclusively commercial pellets.

## Environment

### Cage

House rabbits should never be kept completely confined to a cage. Exercise is vital for the health of the rabbit. All too often we hear well meaning, but poorly informed, people describe rabbits as easy to keep because “they can be caged and don’t take up much space!” This idea has led to many rabbits being caged most of their lives with the distinct possibility of developing both physical and behavioral disorders. They are designed to run and jump and move about a large area.

To confine a rabbit to a cage exclusively to a cage can cause several problems:

- Obesity – caused most often by a diet too high in calories coupled with a lack of exercise
- Pododermatitis – Inflammation of the feet caused by sitting in a damp or dirty environment
- Poor bone density - Rabbits that are continually confined to a small cage can exhibit marked thinning of the bones which may lead to more easily broken bones when handling
- Poor muscle tone - If the rabbit can’t exercise, the muscles, including the heart, will be underdeveloped and weak
- Gastrointestinal and urinary function - A rabbit that sits all day in the cage with little exercise can develop abnormal elimination habits

- Behavioral problems - Continually caged rabbits can exhibit a wide range of abnormal behaviors including lethargy, aggression, continual chewing of the cage bars, chewing fur (obsessive grooming), and destruction of the entire contents of the cage.

A cage can be used as a “home base” for part of the day or it can be open all the time within an exercise area. The cage should allow the rabbit to stand up on its hind legs without hitting the top of the cage, provide a resting area and space for a litter box. It should be easy to clean and indestructible, therefore metal is probably the best choice. The floor can be solid or wire. Keep the cage in a well-ventilated, cool area. Basements are often too damp, which can promote respiratory disease. If you must house your pet in a basement, use a dehumidifier and a fan to improve the air quality. The optimum temperature range for a rabbit is 60-70 degrees F. When the temperature rises into the mid 70's, you may drooling, and a clear nasal discharge. If temperatures reach the upper 80's and beyond, especially if the humidity level is high, there exists a potential for a fatal heat stroke. On hot days, when air conditioning is not available, leave a plastic milk jug filled with frozen water in the cage, for use as a portable "air conditioner".

Rabbits can be caged outdoors if they are provided with a shelter to protect them from rain, heat and cold. In addition, make sure the cage is secure from predators such as dogs, coyotes and raccoons and is kept clean to keep from attracting parasitic insects. In the winter use straw bedding in the sheltered area for insulation and make sure that the water bowl is changed daily. Your pet can dehydrate rapidly if the water is frozen for more than a day.

### **Exercise Area**

As mentioned, it is vital to the health of your pet to provide an exercise area where your pet can roam for a few hours every day. The easiest way to accomplish this is to use exercise fencing panels sold for dogs. These can be found at most pet stores. Buy fencing that is at least three feet high for small and medium rabbits and four feet high for giant breeds. These panels are easily put together with metal pins and can be configured to any size or shape needed. The pen keeps your bunny away from furniture, electrical cords and toxic materials. The pen can also be used outside as a moveable enclosure to allow your pet access to grassy areas. Never leave a rabbit outside in a pen unsupervised, because dogs, cats and raccoons may be able to knock down the fencing or climb over it and harm your pet. If you need to protect the floor under the pen you can use a sheet of no-wax flooring which is available at most hardware stores. It can be easily cleaned and rolled up when not in use.

If you are going to allow your pet free access to your house you need to “bunny-proof” it. Block all escape routes, cover or block access to electrical, phone and computer cords, cover furniture to protect it from the rabbit’s teeth and claws and remove access to toxic plants, rodenticides, insecticides and other toxic materials.

### **Litter Box**

Rabbits can be litter box trained relatively easily. When beginning training, confine your pet in a small area, either in a cage or a blocked off section of the room and place a litter box in the corner (try to pick the corner your pet has already used for its toilet). Make sure the sides of the box are low enough so your pet can get in and out easily. It is helpful to put some of the droppings in the box. Some people have also found it helpful to put some hay in the box to encourage defecation in the box (they usually pass stool while they are eating). In exercise areas, provide one more litter box than the number of rabbits you have and put newspaper or plastic under the litter box to protect your floors from accidents. Never punish your pet while in the litter box

Pelleted litter makes the best bedding and is preferred over wood shavings, corncob and kitty litter. Pelleted litters are non-toxic and digestible if eaten, draw moisture away from the surface keeping it drier, control odor well and are can be composted. Do not use clay or clumping kitty litter. We have had cases where rabbit ate these products

and died from an intestinal impaction. There are a wide variety of pelleted beddings available through pet stores, veterinarians and rabbit clubs.

### **Rest/Hide Area**

The ancestors of our pet rabbits would have spent a good portion of their day in protected burrows underground. Our pet rabbits retain the same need to have a protected area in which they feel safe and secure. Some rabbits are content to sit in a box full of hay, others like a completely enclosed box in which to hide. Try providing untreated wicker or straw baskets, litter pans or other shallow boxes filled with hay, cardboard boxes with an entrance hole and the bottom removed or large cardboard tubes as places to hide.

Use your imagination! If the cage has a wire floor, provide a solid area on which the pet can rest. Use material that is washable or disposable and absorbent. Some examples might be fake fleece (not long fur) found in sewing stores or absorbent baby blankets (not terry cloth towels). Do not use carpet squares because they are not absorbent, they are abrasive to the feet and they cannot be thoroughly cleaned.

### **Toys**

Rabbits get a fair amount of mental exercise from their diet of grass hay and green foods, but additional toys are appreciated. Rabbits like to chew, so give them branches from untreated trees (please dry the wood for at least a month to prevent any adverse reactions to the sap), wooden chew toys designed for birds, or unfinished, unpainted wicker or straw baskets. They like things that make noise such as keys on an unbreakable key holder, empty plastic or metal cans, hard plastic baby toys and jar lids. They like things that both move and can be chewed such as toilet paper or paper towel rolls, empty small cardboard cartons and small piles of shredded paper.

### **Handling**

There are a number of ways to pick up your pet depending on how calm he/she is and his/her size. The main thing to remember is to always support the hindquarters to prevent serious spinal injuries. Rabbit backbones are fragile and can fracture if the hind legs are allowed to dangle and the animal then gives one strong kick. Unfortunately these injuries are usually permanent and frequently result in the euthanasia of the pet, so the best policy is prevention. Never pick up a bunny by his/her sensitive ears because it's very painful and totally unnecessary! It is better to grasp the loose skin over the shoulders or scoop up under the chest and then place your other hand under the back legs to lift your bunny from the floor. Work near the floor when first learning to handle your pet so that if he/she jumps out of your arms there isn't a chance for a fall. Ask your veterinarian or an experienced rabbit handler about other methods used to handle rabbits. Some restraint methods are particularly useful when your rabbit needs to be medicated. Wrapping your pet securely in a towel is one easy method and your veterinarian can instruct you on the proper procedure.

### **Medical Problems**

We have many handouts available that cover medical problems encountered by pet rabbit in detail. I would encourage you to ask your veterinarian for information on a specific topic that interests you. As mentioned before, the number one group of diseases that we see in rabbits is caused by an inappropriate diet and most are completely preventable. The following is a brief discussion of a few of the medical conditions that you should be aware of.

**Neutering/Spaying** - Uterine adenocarcinoma is a malignant cancer that can affect female rabbits over two years of age. The best prevention for this disease is to remove the reproductive organs (ovaries and uterus) in a surgical procedure commonly called a spay. The procedure can be performed in females over four months of age. Spaying a rabbit also prevents pregnancy and can help control some aggressive behavior.

Male rabbits can also develop disease of the reproductive organs (the testicles) but with much less frequency than females. However, some male rabbits have a tendency to become aggressive in their “adolescent” years (8-18 months of age) and can also start spraying urine outside the toilet area to mark their territory. Surgical removal of the testicles, called castration, can control these behaviors if it is done before the behavior occurs or shortly thereafter. Male rabbits can be neutered anytime after four months of age.

**Dental Disease** - Dental disease can be the result of a variety of factors including trauma to the face, genetics (jaw is too short or malformed such as seen in the lop-eared breeds of rabbits), nutritional disease, infectious disease and diet. Rabbit ancestors ate a diet that was tough and abrasive therefore they developed teeth that grew throughout their lives. Without this constant replenishment the teeth would wear down quickly and the rabbit would be unable to eat and eventually die. Any condition that causes a rabbit’s teeth to be worn down improperly or causes malalignment or the death can result in serious dental disease.

The best prevention for dental disease is a healthy diet of grass hay and green foods. But even with this good diet, there are still rabbits that develop disease due to other factors, particularly genetics. The treatment of dental disease is based on the cause and severity of illness. Your rabbit should have a dental examination performed by a veterinarian at least once a year. You should never attempt to trim a rabbit’s overgrown teeth without consulting your veterinarian. An improperly performed tooth trim can lead to serious dental disease.

**Loss of Appetite** - Rabbits are little eating machines and if you note that your pet has changed his/her eating habits, there is cause for concern. The most common reason a rabbit stops eating is in response to pain somewhere in the body. The rule of thumb regarding the seriousness of the loss of appetite is as follows:

- Loss of appetite but otherwise acting normal should be investigated within 48 hours. Some rabbits may go through a slow down and then pick up again in a day. The key here is that the rabbit is still active and alert is still be producing stools
- Loss of appetite accompanied by obvious lethargy or depression should be considered an emergency and should be investigated immediately. This can be a sign of an intestinal obstruction or toxin ingestion. Another important sign is that no stools are being produced.

**Respiratory Signs** - Rabbits can exhibit sneezing, coughing and excess tearing. Not all these signs are related to respiratory disease. More common causes include environmental irritants (perfumes, sprays, cooking fumes, ammonia fumes from accumulated urine in toilet area, fabric softener on bedding, dust), poor air circulation, damp environment, hot environment and dental disease. Please consult your veterinarian if your pet is showing the signs listed above.

**“Hairballs”** - Hairballs are often cited as a reason for rabbits to stop eating. The problem is not hair (which is always present in a normal rabbit’s stomach due to grooming) but abnormalities in GI tract motility. A rabbit on a healthy diet of grass hay and green foods will not have a problem with this “disease”.

The only exception is that, rarely, longhaired breeds of rabbits such as Angoras and Jersey Woollys, can accumulate an abnormal amount of hair in their stomachs even if they are on a good diet. Brush these breeds regularly to prevent the ingestion of large amounts of long hair. Remember that these rabbits do not have the normal rabbit haircoat of the ancestral rabbit so we humans have artificially created this problem!

**Diarrhea** - True diarrhea, where all the stool being passed is purely liquid, is very rare in the rabbit. More commonly we see a situation where the rabbit has both normal and soft pudding-like stools in the toilet area. This

is not diarrhea, but a problem with GI motility usually caused by an inappropriate diet. You can read more about this in our handout: Intermittent Soft Stools in the Rabbit.

If you should notice true diarrhea in your pet, you should consider it an emergency situation and consult your veterinarian immediately.

**Urinary Disease** – The normal color of rabbit urine can range from yellow to dark orange-red. The color comes from plant pigments in the food or from normal pigments produced in the wall of the bladder. The urine can be clear or cloudy with a white precipitate. The white precipitate is excess calcium excreted through the urine. Rabbits can develop disease of the bladder or kidneys and may exhibit signs such as blood in the urine, straining to urinate, inappropriate or frequent urination, or the complete inability to urinate. If your pet is exhibiting any of these signs, please consult your veterinarian immediately. The best prevention for urinary disease is an adequate water intake, which is accomplished through the feeding of green foods and providing fresh water daily.