

# RabbitingOn



The Magazine for Rabbit lovers

Autumn 21 Price £6.00

## **ABNORMAL BEHAVIOUR**

What is it, why does it happen and prevention

## **THE BONDING PROCESS**

How to bond and what to expect

## **LONG-TERM MELOXICAM USE**

Benefits and potential side-effects

## **DISINFECTANTS**

Infectious disease cleaning

- Ethics - Bathing rabbits
- Uterine cancer survey results
- Mass rescue situations
- Coccidiosis
- Treats and supplements

SCIENCE  
Selective™

SO IRRESISTIBLE,  
EVERYONE  
WANTS SOME.



NEW!

**FOR RABBITS, NOT RHINOS (SORRY).**

Find out why Selective is so irresistible! Not only is it delicious, it gives your furry friends a shiny coat and helps promote healthy teeth and happy tummies. It's also recommended by vets so you can be sure you're giving them the best. But sorry, it's for rabbits, not rhinos.

**NO ADDED SUGARS • UP TO 25% HIGH FIBRE  
OMEGA 3 & 6 • NATURAL PREBIOTICS**

Get in touch today  
[supremepetfoods.com](http://supremepetfoods.com)

Connect with our fans!  
f @supremepetfoods



RECOMMENDED BY  
**VETS**  
LOVED BY  
**PETS**

# WELCOME TO THE AUTUMN RABBITING ON



It is hard to believe that we are over halfway through 2021 now... time seems to have flown by. For many, life has returned to some normality, and adaptations have almost become the 'norm' now. The RWF recently held its online Ethics and Welfare conference, in conjunction with The Webinar Vet. The day proved to be a massive success and RWF Patron, Dr Emma Milne and RWF Veterinary Adviser, Dr Richard Saunders give a roundup of the day in Campaign Update (page 24).

This issue has three features which go hand-in-hand together. Sonya Miles, Veterinary Surgeon, speaks about round and tapeworms that can affect rabbits in her feature (page 8); Brigitte Lord, Veterinary Surgeon, writes about coccidiosis (page 36); and Rachel Sibbald, Registered Veterinary Nurse, looks at how and what disinfectants can be used for infections in rabbits (page 42). Hopefully these three features will give everyone some useful and practical advice.

We all know that rabbits are clean animals, but are there ever reasons to bath them? Dr Emma Milne continues her ethics series looking at the subject (page 2).

Bonding rabbits is a topic which the RWF and many rescue centres are approached about on an almost daily basis. Lea Facey, of the Rabbit Residence Rescue, has bonded hundreds, if not thousands of rabbits over the years. Her step-by-step guide will help anyone looking for guidance on the topic (page 4).

Do rabbits need treats and supplements? Dr Guen Bradbury, Rabbiting On Veterinary Adviser, looks at the subject (page 16) and also dispels seven feeding myths in her other feature in the issue (page 7).

If we are honest, we have all made mistakes when being new to rabbit ownership. Andrew Jones writes a truthful and open feature (page 30) about the mistakes they made and what they learnt along the way. I am sure many readers can relate to this.

You will also find features on how much space two and more rabbits require (page 14), uterine cancer survey results (page 20), the use of meloxicam long-term for chronic health conditions (page 22), what to have in your rabbits' first aid kit (page 32), and much more!

Your letters, photos and stories help to make Rabbiting On the fabulous, renowned and informative publication that it is, so please do continue to send them in, and if you have any ideas for future topics which you would like to see covered, please do drop me an email.

Until next issue, take care

**Claire Speight Editor**



**Rabbit Welfare Association & Fund**  
A hutch is not enough

Rabbiting On is the quarterly journal of the Rabbit Welfare Association and Fund, which exists to improve the quality of life of pet rabbits in the UK. For further information about day-to-day rabbit health issues please visit the website at: <http://rabbitwelfare.co.uk>  
To join the RWF please go to the website or telephone the Helpline: 0191 933 9000



Cover picture: Peter Gosling and Emma Gurney

## STAR BUNNIES

### Our Autumn Star Bunnies are Gladys and Mr Hop, sent in by Sally Hibbert

Gladys and Mr Hop win; 1 x 2kg Excel Nuggets (winners choice of Junior & Dwarf, Light, Mature, Adult Mint or Adult Oregano), 1 x 1kg Excel Forage and 1 pack of snack treats.

For further information on Burgess Pet Care's extensive range of animal feeds, call their FREE customer Care Line number:

**0800 413 969**

In order to claim your prize you must contact us on [info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk) with your choice of preferred Excel nuggets, RWF membership number, postal address and telephone number before the next issue of Rabbiting On is published.



## HEALTH AND ADVICE

<b>Ethics</b>	<b>2</b>
Bathing rabbits	
<b>Endoparasites</b>	<b>8</b>
Roundworms and tapeworms	
<b>Ask the Experts</b>	<b>12</b>
Your questions answered	
<b>Uterine cancer survey</b>	<b>20</b>
Are rabbits at risk due to lack of information and education?	
<b>Meloxicam in rabbits</b>	<b>22</b>
Long-term use	
<b>Nursing care at Home</b>	<b>32</b>
What to have in your rabbits' first aid kit	
<b>Coccidiosis</b>	<b>36</b>
What it is, how rabbits get infected and treatment	

## FEATURES

<b>Bonding</b>	<b>4</b>
How to bond rabbits	
<b>Feeding myths</b>	<b>7</b>
Separating fact from fiction	
<b>Abnormal behaviour</b>	<b>10</b>
Why does it happen and how can it be prevented?	
<b>Space for multiple rabbits</b>	<b>14</b>
Enclosure sizes for two or more rabbits	
<b>Treats and supplements</b>	<b>16</b>
What is and isn't suitable	
<b>Gardening with Twigs</b>	<b>18</b>
Borders	
<b>New owner mistakes</b>	<b>30</b>
Learning what rabbits really need	
<b>Rescue Point of View</b>	<b>34</b>
Mass rescue situations	
<b>Back to Nature</b>	<b>40</b>
Preparing for winter	
<b>Disinfectants</b>	<b>42</b>
How to clean and what to use	

## YOUR PAGES

<b>Campaign Update</b>	<b>24</b>
Keeping you informed	
<b>It's My Bunnies</b>	<b>27</b>
Is it your rabbits?	
<b>Readers' letters</b>	<b>29</b>
You have your say	
<b>Rabbit Round Up</b>	<b>39</b>
Round up of the latest rabbit news	
<b>Pawprints</b>	<b>44</b>
Your photos	
<b>Can we help?</b>	<b>46</b>
Contacting the RWF	
<b>Join the RWF</b>	<b>46</b>
<b>RWF renewal form</b>	<b>48</b>
<b>Back issues to order</b>	<b>48</b>

In the wild rabbits never get soaked to the skin unless something is seriously wrong

Photo: G Carey

# WASHER-DAY BLUES

## Why your rabbits don't need that bath

By Dr Emma Milne, Veterinary Surgeon

**F**requent readers of my ethics columns may be aware that I often despair at human behaviour when it comes to our pets. More often than not, it is not because people are deliberately trying to be cruel, but because of ignorance or lack of thought. I sincerely wish people spent more time finding out about animal needs, before ploughing ahead with things that might seem like a good idea... like bathing rabbits.

### Keeping clean

Humans are brought up to be clean and are taught that we must wash from head to foot in soap and water. Lots of people assume that for pets to be clean the same applies, but this is simply not the case. Not only do many animals hate being wet or being washed, but for some species it's actually potentially very harmful and even dangerous.

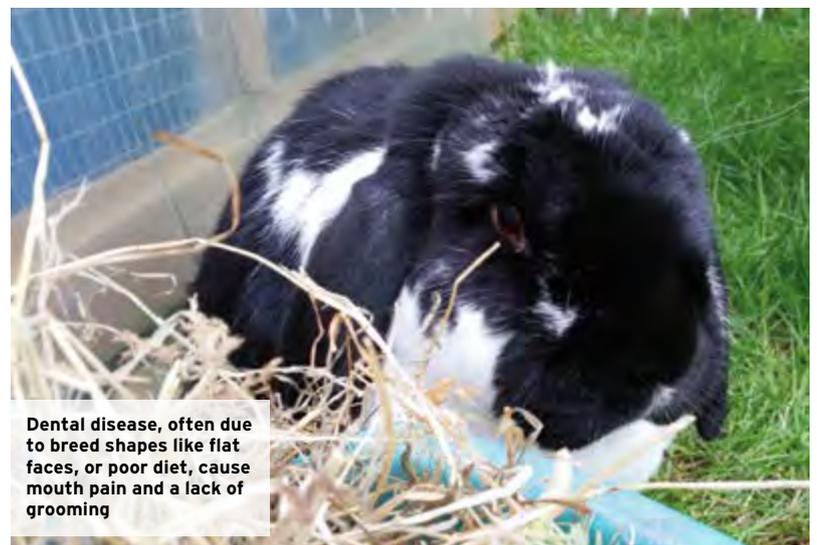
Rabbits, like cats, are fastidious groomers and over the millennia of evolution their coats and bodies have adapted to be in perfect balance. Skin and hair are actually pretty amazing things. Skin is an incredible organ which helps keep us hydrated, warm, and protected from infection. It also produces sebum, an oil which keeps the coat and skin in good condition. Of course, as I always point out, humans have hugely changed species with the concept of selective breeding, so this has made some radical changes to what nature intended.

Some breeds of rabbits these days have very long fur, or fur that is much more prone to knotting or difficult to keep under control. So some human owners will have

to intervene and groom their rabbits. There are also times that rabbits get messy or dirty and this can, especially in summer, make them very prone to fly strike which can be rapidly fatal. But even with all this in mind, bathing is virtually never necessary for rabbits.

### The perils of water

While many of us enjoy a relaxing soak in the tub, the exact opposite is true for rabbits. Being immersed in water can easily panic rabbits and cause them to thrash around. With their incredibly powerful back legs, this is often a recipe for disaster and can lead to broken legs and spinal injuries.



Dental disease, often due to breed shapes like flat faces, or poor diet, cause mouth pain and a lack of grooming

Many of you may have seen lots of highly-shared and, sadly, hugely-liked photos of rabbits on social media, looking like they're happily chilling in the sink while having their bath. The horrible reality of this is that usually these animals are kept in this position by being tranced. This is something we discuss often in *Rabbiting On* and it is totally unacceptable. Trancing rabbits, or tonic immobility as it is called, is a fear response that rabbits employ when they have been captured by a predator. It is their most heightened stress state and to put rabbits into this state deliberately is frankly indefensible unless absolutely necessary under veterinary advice. Using it to do something as unnecessary as a bath is cruelty, plain and simple.

It's also very important to remember that rabbits are small animals. This means they lose heat much faster than larger ones because they have a greater body surface area compared to their body weight. Rabbit fur, when soaked through, is very difficult to thoroughly dry. The wet fur next to the skin causes heat loss and there is a real danger of hypothermia and even respiratory infections and pneumonia as a result. In fact, in the wild rabbits never get soaked to the skin unless something is seriously wrong - even if they don't shelter in a burrow or under vegetation, fur is designed to make 'drip tips' so the water slides off the top layer of wet fur, without ever soaking to the skin.

### Pretty in pink

Before we look at why your rabbit might seem to need a bath, I would like to take a minute to talk about dyeing rabbits. I sincerely wish that this discussion wasn't necessary but sadly, it is! I've been asked to do interviews in the past on the subject of dyeing dogs' fur all sorts of rainbow colours, notably the ridiculous cuts of some poodles. I never imagined people did it to rabbits too, but apparently they do. I can't fathom why someone would want to do that, so I've tried instead to wrack my brains to come up with a possible benefit for the animal. But I can't. We've talked about showing previously and I really feel this falls into the same category. I suspect the people who might want to dye their rabbits different colours are simply attention seekers. There is not a single benefit to the animal. All they are doing is putting them through a potentially dangerous procedure, basically for their own entertainment. Please don't.

### Why rabbits get dirty

As we said, sometimes rabbits do get soiled but it's really important, before you rush to wash them, to understand that there is a reason, and that reason

Photo: J Sadler



Mutual grooming of hard-to-reach places is a very important part of their hygiene

fundamentally needs addressing rather than simply cleaning away the mess.

Here's why your rabbits may not be as pristine and clean as nature intended.

- **Lack of space or the right environment** - Far too many rabbits are still kept in inadequate, small cages. Being cramped can cause painful spinal and limb problems which make it impossible for rabbits to groom. Very small cages can physically limit the ability to groom and reach all the necessary areas. Poor bedding or lack of regular cleaning will also make it more likely that the rabbit is sitting in a mess all the time.
- **Lack of a friend** - Rabbits are very good at keeping themselves clean but mutual grooming of hard-to-reach places is a very important part of their hygiene, bonding, and social needs. No rabbits should be kept on its own.
- **Obesity or mobility issues** - Anything that reduces your rabbit's ability to bend and remain flexible will make them more likely to be dirty, especially around the rear end.
- **Tooth problems or the wrong diet** - As we say in every issue, long fibre MUST form the majority of a rabbit's diet. This is necessary for gut health and to keep their teeth worn down. Dental problems, often due to breed shapes like flat faces, or poor diet, cause mouth pain and a reluctance to groom. Poor diet also affects the digestion and causes an abundance of soft stools that matt into the fur around the back end.
- **Other problems such as *E.cuniculi* or bladder issues** - Medical conditions that cause excessive or problems with urination, can cause the rabbit to urinate down and around their hind legs.

### Conclusion

All these issues need to be addressed with professional advice. If you feel you need to bathe your rabbit, please see your vet first. Often, they can clip and clean the area properly, which is almost impossible once the fur is wet. If your vet feels a wash is absolutely necessary, they can either do it for you or guide you in how best to keep the cleaning to an absolute minimum. Reach for phone before you reach for the soap!



Rabbits are good at keeping themselves clean

Photo: C Collast

It is normal for one of the pair to do the majority of the grooming

# THE BONDING PROCESS

By Lea Facey, Manager for The Rabbit Residence Rescue

All photos: The Rabbit Residence Rescue

**A**t Rabbit Residence Rescue, we will usually bond the rabbits ourselves on site, and the majority of rabbits will stay with us from five to fourteen days. We bond in the region of one hundred single rabbits each year and have a dedicated neutral bonding area where we can increase or decrease space and vary enrichment.

## Rabbit behaviour

Rabbits observe a social hierarchy, and confirming that social hierarchy through different behaviours is an integral part of the bonding process. There will almost certainly be one dominant rabbit and one submissive rabbit in a pair. The same happens when rabbits are bonded into groups, and attempting to bond into a group rabbits that have previously fought (as one was unwilling to submit to the other) rarely, if ever, resolves the dominance issues.

You may think that the submissive rabbit gets a raw deal, but once the hierarchy is confirmed, both rabbits are perfectly happy.

## Initial interactions

It is important to use a neutral area for bonding; by this we mean an area unfamiliar to both rabbits, as introducing a new rabbit into another rabbit's 'space' can cause territorial aggression.

At the rescue, we have a dedicated, neutral bonding area with moveable partitions so that we can increase and decrease the size of the area and the amount of enrichment, depending on the needs of the individual

rabbits we are bonding. There is no such thing as a fool-proof bonding method, and what works well for some rabbits may not suit others.

We introduce the rabbits to each other with a mesh barrier between them, which prevents any initial fighting, and then go on to the process outlined below, unless we feel that housing the rabbits next to each other for a few days and scent swapping (swapping litter trays and enrichment items) would be beneficial. The scent swapping process, done in a neutral starting space, is the method we usually recommend to owners who are attempting to bond rabbits by themselves at home, as they may be less easily able to spot small changes in the rabbits' behaviour towards each other, or have less time to closely monitor the rabbits when first introduced, which is key if you want to ensure no injuries occur if something starts to go wrong.



It is normal for some chasing to occur, as the rabbits need to establish who is going to be the dominant one

Laying down near one another is a positive sign



It's worth noting that male rabbits should be gently discouraged from mounting the females head as if she becomes annoyed, she may bite his genitalia, which can cause serious injury. Some rabbits do get excited and hold on to the other rabbit's fur when mounting, this is also normal behaviour provided the other rabbit tolerates it. If they suddenly pull away, a small amount of fur may be pulled as a result.

Once chasing and nipping has ceased and the rabbits are comfortably eating and laying together, you should see them groom one another.

One of the rabbits may initiate the grooming by bowing their head to the other. It is normal for one of the pair to do the majority of the grooming, this is nothing to be concerned about and is completely normal. Although initially the male rabbit may seem more dominant, it is often actually the female who is in charge in the relationship.

### Positive signs

When we place the rabbits together, we generally recommend using as close to a circular space as possible, with just a large pile of hay and a water bowl in the centre, so neither rabbit can claim any territory. This should lessen any defensive behaviour. We also use Pet Remedy spray when the rabbits first meet, as we have observed some positive reductions in anxiety and initial aggression when using this product during the bonding process.

It's usually fairly obvious whether the bond is likely to be successful within the first few minutes after the rabbits are introduced and one of the advantages of asking a rescue to bond your rabbit is that it is likely they will have a choice of potential friends to try, should the first potential friend not work out.

It's important to acknowledge that you cannot force two rabbits to be friends, and in some cases it is simply better to try a different rabbit in order to prevent injury, if serious aggression has been shown.

It is normal for both rabbits to ignore each other for a while to start with, or seem too worried to move around, but you should soon be able to observe that the rabbits are starting to relax as they begin nibbling at hay or grooming themselves. Ideally both rabbits will then become more curious about one another and gently sniff each other before retreating, then slowly move so they are sitting closer together and maybe mirror and copy one another's behaviour. These are all signs that the bond will be successful.

Thumping of the back feet is to let everyone know they are frustrated or annoyed about something, or as a warning sign if they feel threatened. The rabbits may also show each other the 'bunny butt'.

Eating comfortably together and laying down near one another are also positive signs, as to do these in close proximity to another rabbit shows that they are not stressed by the other's presence.

It is normal for some chasing to occur, as the rabbits need to establish who is going to be the dominant one in the pairing; this may also involve some nipping, or fur pulling.

One rabbit mounting the other, regardless of their sex, is also the rabbits trying to establish dominance over one another and this should be allowed. The mounting behaviour usually calms down after the first day or so.

Once you are only seeing positive behavioural interactions between the two rabbits, you can start slowly increasing the space and adding enrichment items. It is important that all hideouts have more than one exit, so one rabbit cannot be trapped and forced to defend itself.

At this point you may also see nipping or chasing when one rabbit decides to claim an area or item of enrichment. If this happens, we recommend that you go back a stage for another day or two.

Once the space and amount of enrichment items is similar to that in the original rabbit's normal enclosure, and there has been no chasing or nipping for a few days, it is time to think about the rabbits going home or, if bonded at home, back into their usual accommodation.

**It is important to note that a bonded pair of rabbits should not be separated. Trips to the vet should involve taking both rabbits in the same pet carrier, even if only one needs to be seen.**

You need to ensure that you have thoroughly cleaned and disinfected the entire area and moved all of the

One of the rabbits may initiate the grooming by bowing their head to the other



Rabbits observe a social hierarchy



enrichment items around to make it as neutral as possible for your newly-bonded pair.

Ideally this should happen during the morning, so you can spend the rest of the day observing from a distance, as some chasing and mounting may occur at this point.

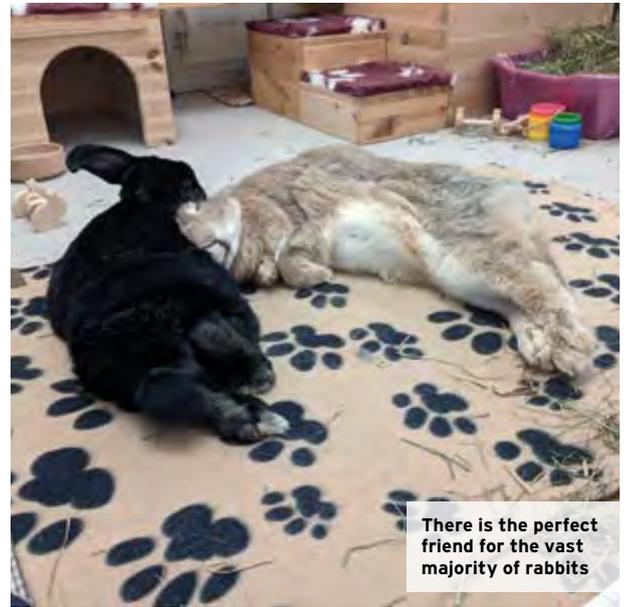
We usually recommend that, for the first few days, owners do not allow access to more than one room if indoors, or to any additional levels or areas that can only be accessed via one route, and that they ensure all hideouts have multiple exits (as mentioned above). When space is increased or the rabbits are allowed out into the garden, they should be supervised in case any unwanted behaviour occurs.

We recommend that any vegetables, treats or pellets are scatter-fed to discourage any competition over food. Scatter feeding is a more natural way for rabbits to eat, as it is similar to natural foraging behaviour, and also means the rabbit is less likely to choke - they will not be bolting their food at speed.

It is also important that you, as the owners, do not interfere whilst the rabbits are settling back in at home. This is really hard for some owners, but it is better to let the rabbits choose to come to you when they want a fuss, and for you to ensure any affection or hand-fed treats are shared equally between your original rabbit and their new friend.



The mounting behaviour usually calms down after the first day or so



There is the perfect friend for the vast majority of rabbits

If you have adopted your new rabbit, reputable rescues offer lifetime back up, so if you have any concerns they will be able to offer you advice and support.

### When to separate

Chasing that results in the two rabbits spinning round and round in circles with ever-increasing speed can easily escalate into a fight, with both rabbits biting and holding onto one another, usually whilst trying to kick each other with the hind feet. This should be deterred, either by making a loud noise such as clapping to distract them for a moment, or by using a towel or soft broom to temporarily break the line of sight. You should find that the rabbits then separate themselves and retreat away from one another. If one rabbit instantly tries to attack the other again, this is not a positive sign.

If the rabbits do fight, serious injury can occur very quickly, so they should be stopped immediately. Continued fighting or one rabbit attacking the other is a sign that the bond is unlikely to work. This absolutely does not mean that the rabbit should live on their own permanently - it is just a signal that the particular combination is incompatible and they should be separated.

### Somebunny to love

I do believe that there is the perfect rabbit friend out there for every rabbit; sometimes it just takes a several attempts, with a few different rabbits, to find the perfect friend. We have had rabbits come to us with multiple failed bonds that we have managed to successfully bond, after trying them with several different rabbits or by varying the technique, such as using a very large space with lots of enrichments and multi-exited hideouts.

On very rare occasions (three rabbits out of just over six hundred), we have made the decision to rehome a rabbit as a single free-range house rabbit, after multiple bonding attempts which have later broken down, resulting in severe injury to the other rabbit.

### Where to seek further advice

If you are looking to bond rabbits yourself at home the RWF has a brilliant booklet, *On the Hop*, which features how to bond rabbits, and there is also an excellent video on the RAW Facebook page, put together by Wood Green Animal Shelter, which shows various behaviours you should watch out for, as it is crucial that you understand the basics of bunny body language before you attempt to bond rabbits.

Hay should be fed from the ground to reduce the risk of inhalation of dust

# SEVEN COMMON FEEDING MYTHS

## What's true and what's false?

By Guen Bradbury, Rabbiting On Veterinary Adviser

**A**t the RWF we frequently receive messages relating to feeding, and what should and should not be fed, based on what owners have been told. Many of this is based on myths, rather than fact. Here we look to bust some of those myths.

### 1. I should restrict the amount of grass I feed my rabbit.

Rabbits have evolved to eat grass, so when rabbits are used to eating grass, they can eat as much as they want. The only exception is when rabbits are not used to eating grass (i.e. they are usually kept indoors or without access to grass) and then suddenly given a large amount of grass - this can cause gastrointestinal upset. So key points here: rabbits love eating grass and it is good for them, but if you want to change a rabbit's diet, do it gradually over a couple of weeks.

### 2. My rabbit should not eat hay from the ground as it will be soiled.

Rabbits have evolved to primarily graze grass from the ground. When they are eating from the ground, their airways are in a position where dust or spores are trapped by the mucus in the airways and drain away from the lungs. This means that it is better for the rabbits' airways to feed hay on the ground, but it is more likely to get soiled over the course of a day. Scattering hay on the ground and giving fresh hay daily means that the rabbits get both of the benefits - normal eating behaviours and plenty of fresh hay.

### 3. Hand-picked grass is dangerous for my rabbit.

Rabbits have evolved to eat grass that is still alive. Harvested grass is slightly damaged, so if it is left somewhere damp for a while, it can ferment and produce toxins that are bad for rabbits. Grass that is cut by a lawnmower is badly damaged with multiple cuts and bruises on each blade of grass - this means it ferments fast, so should never be fed. Grass that is picked by hand is much less damaged so it ferments slowly. Providing you hand pick fresh grass for your rabbit every day (rather than picking a big pile that will ferment), hand-picked grass will be tasty and safe for your rabbit.

### 4. I should not feed greens to my rabbit daily.

Rabbits have evolved to eat a variety of wild plants and grasses. Therefore, they enjoy eating many different types of greens. Owners often think that 'greens' refer to cultivated dark green leafy vegetables like kale and spinach - but actually it refers to a much wider selection



Rabbits love eating grass and it is good for them

of different edible wild plants and weeds. Feeding a rabbit on too much of any non-grass plant can cause health problems. For this reason, feeding a range of plants is better for your rabbits as different foods contain different levels of micronutrients and toxins (many toxins are good in small amounts but dangerous in large amounts - so feeding many different plants reduces the risk of feeding too much of any one plant). Also, wild plants have more micronutrient diversity than cultivated vegetables. Kale and spinach are fine to feed in small amounts but try to mix up the shop-bought dark green leafy vegetables with herbs and weeds for more variety.

### 5. Rabbits under six months old should be fed alfalfa hay.

Alfalfa hay is made from a legume (like pea plants) rather than from grass. It contains high levels of certain nutrients (a lot of carbohydrates, protein), too much calcium, and does not wear down the teeth. For this reason, it should never be fed to most rabbits. It can be fed in very small quantities (small handful 3-4 times per week) to rabbits under six months old, but is not necessary providing the young rabbits have access to unlimited hay and some junior pellets, which will ensure their nutritional needs are met.

### 6. Rabbits under six months old should be fed unlimited pellets.

Rabbits under six months old should be fed a small quantity of 'junior' pellets (for young rabbits) daily. It's very important to only feed the amount suggested on the packet for the weight and age of your rabbit - feeding too many pellets will put your rabbit at higher risk for dental disease later in life.

### 7. Rabbits under six months old should not be fed greens.

In the wild, baby rabbits start nibbling plants and grass before weaning is complete. Therefore, rabbits should have greens (dark green leafy vegetables, herbs, and edible wild plants) as part of their diet from weaning onwards. As with adult rabbits, if you want to change the diet, you should gradually introduce a new food over a period of a couple of weeks.

Dogs and cats, as well as wild foxes, should be kept away from grazing areas

Photo: R Walters

# ENDOPARASITES AFFECTING PET RABBITS

By Dr Sonya Miles, Recognised Advanced Practitioner in Zoological Medicine

**E**ndoparasites (parasites that are found internally) in pet rabbits, in comparison to their wild counterparts, are comparatively uncommon. However, when they do occur, there is a wide variety of species that can cause disease in the rabbit. For this article we will specifically be concentrating on nematodes (roundworms) and cestodes (tapeworms), although there are many other types of endoparasites that can infect rabbits, such as coccidia, *encephalitozoon cuniculi* and *Toxoplasma gondii*, which will be touched on here, that have been and will be discussed in length in previous and future issues, with coccidiosis covered at length on page 36 in this issue.

## Nematodes

There are many species of nematodes that can infect rabbits, predominately wild rabbits but also their domesticated counterparts. Many of these parasites are specific to the host species only, therefore cannot be passed to humans, something that many owners often ask. They include, but are not limited to, *Passalurus ambiguus*, *Graphidium strigosum*, *Obesicoides cuniculi* and *Trichostrongylus retortaeformis*, with the most common one in pet rabbits being *P ambiguus*, a type of pin worm, also known as a thread worm (Meredith & Lord, 2014).

*P ambiguus* is often non-pathological in the adult rabbit, and is actually thought to play a beneficial role in the mixing of the ingested material in the large intestines of the rabbit, making nutrients more readily available (Varga, 2014). *P ambiguus* can however cause sometimes severe disease in younger rabbits, specifically around the age of weaning, with clinical signs such as poor condition, poor weight gain, anorexia, lethargy, and diarrhoea being most commonly observed. Diagnosis should be based on faecal examination (both direct examination and faecal floatation) with the adult worms also often being visible in the faeces with the naked eye, at approximately 10mm in length and white in colour.

The life cycle of *P ambiguus* is direct, with eggs and adults being passed out in the infected rabbit's faeces. The next rabbit becomes infected by ingesting the eggs from contaminated food or by eating the infested faeces. This risk will increase in places with lots of rabbits in close proximity such as breeding collections, or with poor

environmental hygiene due to the short and direct life cycle of approximately 18 days (Varga, 2014). As such environmental hygiene is a vital part of any treatment regime alongside medical intervention.

Medical treatment for *P ambiguus* should only be considered if there are concerning clinical signs present alongside a positive faecal result. Routine prophylactic worming is not recommended and if undertaken can increase the possibility of resistance to the drugs used to treat these infestations. Fenbendazole is often the treatment of choice, with a second faecal sample,



Tapeworm segments passed by a rabbit in the droppings

Photo: J Shaw

seven days after the last dose of medication being recommended to monitor the success of the therapy. Environmental management should be optimised if infestations are diagnosed, with an improvement to hygiene being essential. Faecal material should be removed regularly, and grazing areas should be rotated, especially if young rabbits are kept in the same home as adult rabbits. However, re-infestation commonly happens as rabbits eat their caecotrophs and re-infect themselves.

## Cestodes

Rabbits can act as the intermediate host for many species of cestode (tapeworm), which include *Taenia serialis* and *Taenia pisiformis*, with the definitive hosts including cats, dogs and foxes. These definitive hosts pass out tapeworm eggs in their faeces which contaminate the rabbit's food which is then ingested (Meredith & Lord, 2014). The tapeworm then hatches, migrates from the intestines, through the rabbit's tissues and forms cysts. The location of the cysts varies depending on the species of tapeworm. For example, *Cysticercus pisiformis* (the larval stage of *T pisiformis*) forms large ovoid cysts in the abdominal cavity and liver of the rabbit, whilst *Coenurus serialis* the larval form of *T. serialis*, forms large ovoid cysts in the tissues under the skin, but also behind the eye or in the tongue or muscles of the rabbit, which can be often palpated on clinical examination (Varga, 2014). When involving the ocular structures an exophthalmos may be noticed on clinical examination.

The swellings that occur as a result of cyst formation can grow to a substantial size and contain the scolices (segments of the tapeworm). Clinical signs are as a result of the size and position of the cysts. Cysts



Magnified view (X10) of *Passalurus ambiguus*

Photo: F. Harcourt-Brown

Photo: F. Harcourt-Brown



A tapeworm cyst during surgical removal

affecting the liver or abdominal cavity often cause abdominal distension and discomfort, resulting in an ileus and in severe cases obstructions of the intestines is possible (Varga, 2014). When migrating through the liver, the liver will be damaged, often resulting in scarring and in some cases necrosis to the liver tissue impairing the organ's function.

*Echinococcus granulosus* affects dogs and foxes, with many mammals, including rabbits and humans, acting as the intermediate host for this tapeworm (Meredith & Lord, 2014). Oncospheres from ingested eggs migrate to the liver or the lung via the mesenteric blood vessels (Varga, 2014). From here they then develop into large cysts which are able to produce secondary cysts, which in turn can produce their own daughter cysts. These cysts can rupture, seeding cysts elsewhere within the abdominal cavity (Varga, 2014).

Tapeworm treatment often involves surgical removal of the cysts under general anaesthesia, which in some instances can involve partial resection of the tissue they reside in, for example a liver lobectomy may need to be performed. There is no reason to prophylactically worm rabbits for this parasite (Meredith & Lord, 2014). Prevention, in the case of tapeworms, is very important. Dogs and cats, as well as wild foxes, should be kept away from the grazing areas and food sources of pet rabbits and their faeces should be removed regularly from any area where rabbits graze. Cats and dogs, specifically those who are likely to hunt or eat raw meat are often prophylactically wormed by their owners.

## Other Endoparasitic infections

Other endoparasites commonly seen in domestic rabbits include various species of coccidia which vary massively in their pathogenicity. *Encephalitozoon cuniculi*, a spore forming obligate intracellular protozoa parasite that affects the renal and central nervous system of rabbits. *Toxoplasma gondii*, a protozoal parasite that is often subclinical in many patients, causing a problem in those who are immunocompromised, often resulting in anorexia, pyrexia and central nervous system changes such as posterior paralysis and seizures.

When it comes to endoparasites in rabbits, with all implicated species, prevention is better than cure. New rabbits to the household should be quarantined and screened using faecal tests with ideally age groups not being mixed, specifically young, immune naïve rabbits being kept away from adults. If you have a concern about your rabbits, or you have seen what you think are parasites in your rabbit's faeces, you should take a fresh faecal sample (ideally three days' worth) to your rabbit savvy vet for faecal analysis, and only once an infestation has been diagnosed, should treatment be started, using an appropriate drug at an appropriate dose and frequency.

## References

- Meredith, A, Lord, B (2014). *BSAVA Manual of Rabbit Medicine*. Gloucester: British Small Animal Veterinary Association . 66, 173, 188-189, 258, 315.
- Varga, M (2014). *The textbook of rabbit medicine*. 2nd ed. New York: Elsevier. 443-444.

# ABNORMAL BEHAVIOUR IN RABBITS

Wild rabbits display a wide range of behaviour patterns, including rearing

Photo: H Brindley

## What is it, why does it occur and how can we prevent it?

By Laura Dixon, Research Scientist

**W**ild rabbits display a wide range of behaviour patterns, such as foraging, digging, rearing, resting and grooming. Our domestic, or pet rabbits will perform all these behaviours as well when given the opportunity and appropriate environment. However, pet rabbits can also exhibit behaviours that are not shown by their wild counterparts. These behaviours are called abnormal or stereotypic behaviour patterns. Abnormal behaviours are considered to be atypical reactions to motivated behaviour and the stimuli or resources available<sup>1</sup>.

### What are stereotypic behaviours?

Stereotypic behaviour tends to be repetitive and persistent behaviour that doesn't have an apparent goal or function. Both are thought to be indicators of poor welfare and are brought on by chronic stress and inability to perform important behaviour patterns<sup>2</sup>. Some abnormal behaviours may be an attempt of the animal to cope in an inappropriate environment, and if exposed to the inappropriate environment while young and the brain is still developing, this can lead to changes in brain development and brain chemistry. At this point, it can become much more difficult to stop the performance of the behaviour<sup>3</sup>.

### What abnormal or stereotypic behaviour can rabbits show?

Rabbits normally groom themselves several times a day. However, they may also begin to over-groom and may even pull out their own fur. Rabbits can direct the over-grooming and fur pulling onto another rabbit, and this is called barbering. These behaviours can lead to skin damage and the ingestion of large amounts of fur, and having fur pulled out can be painful for the recipient rabbit. Consuming a large amount of fur, together with lack of movement and reduced fibre and water consumption, can cause a furball (or hairball) to form in the digestive tract. This may lead to a blockage and may contribute to gut stasis, a condition where the passing of food through the gut slows or stops and leads to an increase in gut bacteria, pain and possibly death<sup>4</sup>.

It is important to learn the normal grooming routine of your rabbits so you can detect if this changes. Also missing fur, red or sore looking skin and lots of fur in the enclosure can indicate over grooming or barbering. Un-spayed female rabbits will pull fur from their stomachs and dewlaps to build a nest if they are pregnant and phantom pregnancies can also lead to nest building<sup>5</sup>. Having your rabbits neutered will make it easier to determine if their grooming behaviour is normal or if it is changing and



Foraging is natural for rabbits

Photo: Z Ayres

becoming harmful.

Chewing is also normal rabbit behaviour. It's needed to obtain and consume food, to explore the environment and to help wear teeth down. Chewing can become stereotypic, meaning the chewing is repetitive, persistent and doesn't seem to have a functional purpose. Stereotypic chewing may be directed onto the enclosure walls or bars (called bar biting), their food bowl, water bottle or edges of the floor or ceiling. It may also involve vigorous pulling at the object or area, almost in an aggressive manner<sup>6</sup>. Instead of actually



Allowing rabbits regular outdoor access will also promote normal behaviour

gripping the objects with their teeth, rabbits can also repetitively nudge objects in a vigorous or aggressive manner or repetitively lick areas. The corners or edges of the enclosure and the enclosure walls may also be stereotypically pawed at in a digging motion and can lead to spilling of food and water.

Some abnormal behaviour is less active and instead can involve repeated head swaying or bobbing, or may involve prolonged periods where the rabbit stands in a corner of the enclosure with their head lowered (called head cornering). These animals may appear unwell and should be checked by a vet but these behaviours also can also be present in physically healthy animals<sup>6</sup>.

Having periods of activity is good for rabbits, but again, some activities can be stereotypical and indicative of a problem. Rabbits can engage in abnormal pacing of their environment, following a similar path of movement over and over again. They can also run in repetitive circles and while circling can be a social behaviour, normally rabbits rarely run in circles if other rabbits are not present<sup>7</sup>.

### Why do rabbits show abnormal or stereotypic behaviour?

Abnormal or stereotypic behaviour generally occurs when a behaviour that is important to the animal can't be performed. The inability to fulfil the motivation for the behaviour causes stress and frustration. This stress and frustration leads to the development of abnormal or stereotypic behaviour. The abnormal behaviour may be an attempt by the animal to perform a behaviour or fulfil a motivation, or it may be a method of coping with a bad or stressful environment<sup>2</sup>. Some behaviours, like head swaying or head cornering, may be a sign of depression or boredom, again related to the inability to perform important behaviour patterns<sup>6</sup>. However, it is important to have your rabbit checked by the vet because some abnormal behaviours, like fur pulling, could be related to health conditions like parasite infestations or may be a sign of untreated pain.



Fresh apple branches can provide stimulation

It is generally accepted that animals performing abnormal behaviours are unhappy and have poor welfare, so changes to the housing and care of the rabbit should be made to improve the situation.

### What can I do to prevent the performance of abnormal or stereotypic behaviour?

Since abnormal or stereotypic behaviours are related to the inability to perform important behaviour patterns, the best way to prevent their occurrence is to make sure all your rabbit's needs are fulfilled.

Rabbits are a social species so need to be housed with a companion. However, the environment should be big enough that the rabbits can get away from each other if they want. There should also be enough space for the rabbits to exercise and the ceiling should be high enough for the rabbit to rear fully on their back legs with their ears extended upwards. Places to hide and platforms will also help rabbits feel safe from predators and to perform vigilance behaviour. The rabbits' enclosure should not be near any other animals, like dogs, that could be perceived as a predator and cause stress<sup>8</sup>.

Rabbits also need a high fibre diet so should have constant access to forages, both for digestive health but also to fulfil foraging behaviour. Leafy green or veggie treats can be hidden throughout the environment for extra mental stimulation and rabbit toys or chewing blocks/fresh apple branches can be given to stimulate activity too<sup>9</sup>.

Allowing rabbits regular outdoor access will also promote normal behaviour. This lets rabbits experience a wide variety of interesting natural stimuli - different sights, smells and sounds - that aren't found indoors. Foraging while outdoors, instead of eating from a pile of hay in their enclosure, also encourages a more natural, active eating style which benefits both the mental and physical health of the rabbit.

In conclusion, encouraging rabbits to perform a wide range of natural behaviours and reducing stresses in the environment will help your rabbit be happy and healthy and will reduce the risk of abnormal or stereotypic behaviours from appearing.

### References

- Jensen, J. 1986. Normal and abnormal behaviour of animals. *Acta Physiol Scand Suppl.* 544: 11-23.
- Mason, G.J. (1991). Stereotypies: a critical review. *Anim Behav* 41: 1015- 1037.
- Würbel, H . 2001 . Ideal homes? Housing effects on rodent brain and behaviour. *Trends Neurosci* 24: 207 - 211.
- Pratt, A. 11 common rabbit illnesses and their symptoms. Available from: <https://bunnylady.com/common-rabbit-illnesses/>
- <https://vethelpdirect.com/pet-health-library/condition-rabbit-fur-pulling-and-hairballs/>
- Gunn, D. and Morton, D.B. 1995. Inventory of the behaviour of New Zealand White rabbits in laboratory cages. *Appl Anim Behav Sci* 45: 277-292.
- Carter, L. 2020. Why is my rabbit running in circles? Available from: <https://www.rabbitcaretips.com/rabbit-running-in-circles/>
- <https://www.rspca.org.uk/adviceandwelfare/pets/rabbits/behaviour>
- <https://rabbitwelfare.co.uk/rabbit-care-advice/behaviour/enrichment/>

**Health****Richard Saunders**

BSc (Hons) BVSc  
MSB CBiol DZooMed  
(Mammalian) MRCVS

Richard was the RWF's last Rabbit Resident at the University of Bristol, and is now the RWF Veterinary Adviser, as well as continuing to see rabbits and other animals in small and zoo animal practice.

**Guen Bradbury**

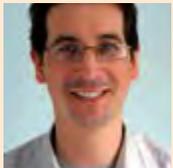
MA, VetMB, MRCVS

Guen Bradbury is the Rabbiting On Veterinary Adviser and is a vet who runs a teleconsultancy to help rabbit owners, vets, and vet nurses with behavioural problems in rabbits. Her textbook on the subject, 'Behavioural problems in rabbits' has been available through online and high-street retailers since the end of October 2018.

**Behaviour****Carol Valvona**

MSc (CABC)

Carol (Bonafido Pet Behaviour And Training) is a member of the Association of Pet Behaviour Counsellors and has a Masters degree in companion animal behaviour counselling. She has rescued giant breeds for a number of years.

**Houserabbit Advice****Leo Staggs**

Experienced rabbit owner Leo Staggs lives in Kent with his wife, 3 children and 2 house rabbits.

**Welfare****Mark Dron**

Mark works on a part-time basis as a consulting Animal Welfare Officer for the RWF.

After 27 years as a Police Officer and with Local Authority Trading Standards Units, many of which were spent dealing with Animal Welfare and Wildlife Crime issues, he now provides his services as a consultant to the RWF's Capone Campaign, which identifies and gathers intelligence relating to online breeders and sellers of rabbits around the UK.

We regret that our experts are only able to answer a few questions in the magazine. If you think that your rabbit may be ill, please seek veterinary advice immediately.

# ASK THE EXPERTS

Rabbits numbers can multiply rapidly



## Breeding like rabbits

**Q** I have heard of a person in my town who has rabbits loose in her garden. They are breeding out of control and rats have also been seen in the garden. I don't know about the condition of the rabbits, but from the sounds of how they are living it can not be good. Who can I contact to go and check on the rabbits and look to take them off of her so they can be taken to a vet and look for new homes?

**A** If this individual is allowing her property to fall into a deleterious state such that it is attracting rats, then the matter should be reported to your Local Authority Environmental Health Team; there are measures they can take under Statutory Nuisance legislation and also a piece of legislation called the Prevention of Damage by Pests Act 1949.

I would advise you to mention the situation regarding the rabbits, and your concerns for their welfare to the Environmental Health team; if they have an Animal Welfare Officer, then they may be able to take action. From what you have reported, it sounds like these rabbits are living in conditions that are not in any way suitable, and as a result their welfare is suffering and they need moving to somewhere they will get the care they need.

Finally, given your concerns, the main organisation to raise the welfare issues with is the RSPCA, who can be contacted via 0300 1234999. If you have any local rabbit rescue centres, it is certainly worth contacting them, as they may also be able to assist with removal and rehoming of some of the rabbits.

**Mark Dron**

# Eating wet grass

Rabbits grazing on wet grass are in no more danger than rabbits grazing on dry grass

**Q** I read lots of things on the internet and also on rabbit social media groups, about wet grass being dangerous for rabbits. Is there any truth in this? Surely wild rabbits run around on and eat wet grass so I would think it would be safe for rabbits to, but want to check with a reliable source, rather than hearsay.

**A** This is a frequent question - and your assumption is absolutely correct. Rabbits grazing on wet grass are in no more danger than rabbits grazing on dry grass. What you've read is based on a single fact, but it has been generalised to a point that it no longer makes sense, as you've identified. In this answer, I'll explain why people can be worried about feeding grass to rabbits, why cut wet grass can pose more risks than cut dry grass, and how you can best think about feeding grass to your rabbits.

Rabbits have evolved to eat grass, leafy plants, and edible tree bark. This diet meets their needs exactly - it meets their nutritional requirements, their biomechanical requirements, their hydration requirements, and their behavioural requirements. There is no diet that is as good for rabbits as grass. However, most owners do not have access to a large enough area of diverse grassland that they can let their rabbits graze all year round. This means that rabbits are often fed on grass that has been picked for them and are often let out to graze for restricted periods of time. The risks of feeding grass arise from these two unnatural situations.

When you read posts or articles that talk about the dangers of grass for

If you have strangers viewing your home, your rabbits may be happier outside



# Selling our house

rabbits, they are usually concerned about one of three risks:

- **When fresh grass is picked or cut, it starts to ferment or 'go bad.'** This is because when the grass is damaged and harvested, the bacteria that live on the grass start to break it down, creating toxins that can poison rabbits. The faster the grass ferments, the more likely it is to go bad before the rabbit eats it. For example, when a lawnmower cuts grass, it bruises and damages the grass as it is harvested - lawnmower clippings go bad very quickly, so shouldn't be fed. When a person picks some grass, usually there is much less damage to the grass, so fermentation is slower, and the grass can be safely fed.
- **When rabbits are not kept outside on grass all of the time, they do not slowly adapt to seasonal changes in the nutritional profile of the grass.** If they are suddenly put on rich spring grass, they are at risk of gastrointestinal upset. For more details, see the article in the spring 21 issue on 'Spring grass.'
- **When rabbits are kept in areas with limited access to grass and access to poisonous plants, then they may eat the poisonous plants.** Poisonous houseplants or garden plants contain toxins that can make the rabbit sick. For more details, see the article in the summer 19 issue on 'Poisonous plants.'

People worry about wet grass because of the first of these risks. If grass is wet when it is picked or cut, it ferments faster. Usually, rabbits eat grass as it is growing out of the ground, so it never has time to ferment. This means that there is no risk to rabbits grazing on wet grass - the grass will be eaten before it ferments. The risk comes when the grass is picked or cut.

So can you ever feed picked wet grass to rabbits? Absolutely yes - grass should always be given to rabbits when it is available. However, if you are feeding wet grass, feed enough to ensure that the rabbit eats it all in one day - this will make sure there is not enough time for the grass to ferment and cause problems. Feed picked grass daily - don't pick an enormous pile to last a week. And never feed lawnmower clippings - wet or dry!

**Guen Bradbury**

**Q** We are about to put our house on the market and have two house rabbits. I am worried about people being in the house, who they don't know, stressing them out, but obviously we have to have people come around to view the house. They have an outdoor run, which I could put them in when people come around, but they haven't been out in it very much recently. Do you think this would be the better option or is there something else you can suggest?

**A** If the weather is dry, the run is secure, and you provide a shaded, sheltered area together with water for them to drink, there is no reason not to let your rabbits out when people are viewing your home.

Alternatively, if you would prefer to keep them indoors, then you need to provide them with a place to hide, if they don't have one already. I would suggest a large cardboard box with several rabbit-sized holes cut into the sides. Place this in, or as close as possible to, the area where they spend most of their time. Inside the box place a selection of their favourite toys, a few hidden treats, and plenty of hay. Not only will this novelty distract and keep them entertained, but it will also serve as a bolthole should they feel the need to hide from visitors. Remember that people not used to house rabbits might leave doors open etc. so be safe and keep the rabbits in a safe enclosure.

**Leo Staggs**

Two rabbits need at least 3m x 2m (6m squared) x 1m height

Photo: D Staggs

# SPACE FOR MULTIPLE RABBITS

By Richard Saunders, RWF Veterinary Adviser

**"I was just wondering what the size recommendations are for multiple rabbits? I know that two need 60 square foot and I've also been told that three can live in this size too - is this true? How much extra space do you add for any extra rabbits? I've got seven so wondering how much space I'd need for all of them".**

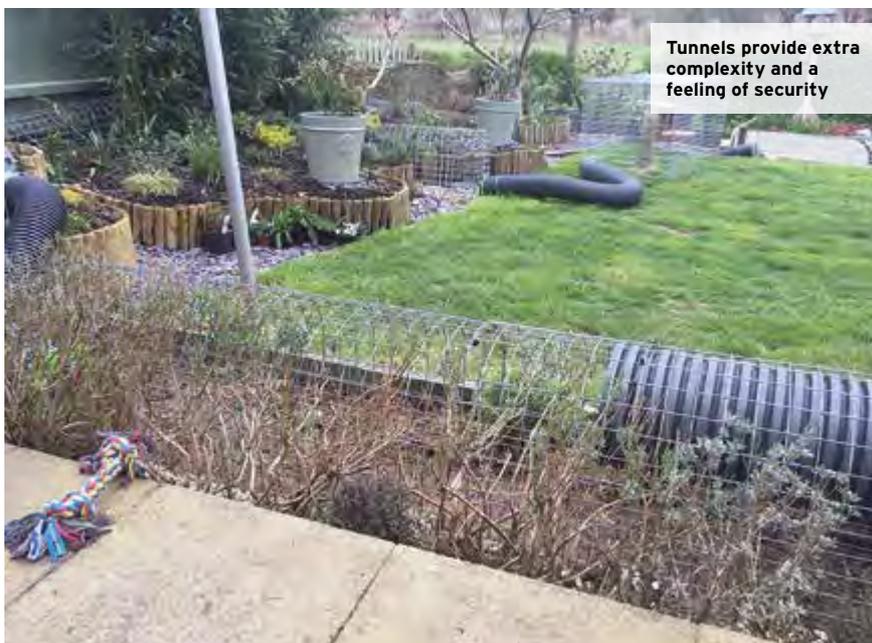
This is a question we have been asked, from time to time, and it's a very difficult one to answer, at least with an accurate answer! The simple answer being "as much space as possible", the slightly longer answer being "as much space and complexity as possible" and the 'scientific' answer being "we don't know, exactly".

## Room to exhibit different behaviours

The first answer can be a practical one. Decide how much space you have in your garden or house, and give them all of it! However, this is fraught with difficulty. For outdoor rabbits, unless you have a secure garden, which means it is neither able to be dug out from, nor vulnerable to attack from cats, foxes, or potential aerial predators, then this is impractical. And I've treated too many rabbits from supposedly secure gardens to believe it's possible. Any garden is secure until it isn't!

However, with 'Catio's' becoming more popular for cats to be kept with outdoor access, it's not impossible to create such a thing for rabbits, to stop anything coming in, rather than cats getting out. Similar thoughts apply to inside rabbits, again making a large area of space safe, taking doors, stairs, electrical cables, and poisonous plants into consideration.

Complexity comes into play too. A barren square garden or room, with 4 walls and nothing in it, fails to meet their needs, so it's worth thinking of what they need and how to provide it. Looking at the Five Freedoms model, combined with how we know they behave in the wild, this can be summarised as: enough space and complexity to find food, to get away from any rabbit(s) they want to, to dig, to stretch up, to exercise and to hide. There should be options for avoiding other rabbits to get around the enclosure and there should be multiple food and water points to avoid conflict with other rabbits as, with increasing group size, the likelihood of negative interactions increases. People with larger groups often remark on the increased range of behaviours that take place between them, some beneficial, some less so, and some fascinating and difficult



Tunnels provide extra complexity and a feeling of security

Photo: T Rose



The space needs to provide enrichment also

to pigeonhole as either, such as acting as a peacemaker or disciplinarian within the group.

### Useable space

Remember also that space is useless if they don't use it. Rabbits, as prey species, will take the safest path through an enclosure, which might mean that the open centre is not used as much. They enjoy plant cover to run through, shelter from the sun or rain, or to sit and nibble. Breaking up large areas of open ground with hides or plants can help with this.

Rabbits feel safer, and use the space better, if they have a clear view of it, being able to spot predators coming. Vigilance behaviour, standing on solid objects to get a better view, or adopting a "meerkat" stance, is often employed. Being in a larger group means more eyes to keep an eye out, so rabbits may feel safer and use the space better than if alone or in pairs.

Tunnels are a very useful addition, for three reasons. Firstly, they provide safe transit around; secondly, they allow the rabbit to avoid a rabbit they aren't seeing eye to eye with at the moment, and lastly, if employed with not just horizontal, but also vertical branching, they mimic the 3D structure of tunnels in a warren, providing extra complexity and a feeling of security. This is a lot more difficult to achieve though!

### Finally, actual sizes!

3m x 2m x 1m high is the absolute minimum enclosure size we recommend for two average-sized rabbits, and this is the whole footprint, which should include a shelter of at least 2m x 1m x 1m. Also, this area needs to have at least one long side (rabbits need about a 10 foot run up to get up to speed). And finally, this is the minimum footprint, places to stand, or double height hutches should not be counted twice, any extra space those provide is a bonus! It's REALLY difficult to extrapolate up. It's too simplistic and unachievable to just say double it for two more rabbits (although one should strongly consider having that much available space in case of group breakdowns). Equally, you can't cram five rabbits into



Rabbits like to be able to get a better view by standing on solid objects

the same space as was optimum for three. Looking at laboratory and local authority guidelines, they tend to suggest an extra 33-50% space for each additional rabbit, and while those absolute amounts of space are, in my opinion, too small, the relative increase in size appears to be a good guide.

### One also needs to remember

- Two rabbits - 3m x 2m (6m<sup>2</sup>) x 1m (with height not needing to exceed that. However, if you provide things to stand on, allow 1m height over those objects to allow rabbits to fully stand up on them)
- 3 rabbits - 9m<sup>2</sup> (with at least 1 side 3m or more long) x 1m high
- 5 rabbits - 15m<sup>2</sup> (with at least 1 side 3m or more long) x 1m high.

**With thanks to Nicola Clements for her editing, comments and suggestions.**

People like giving treats for a variety of reasons

Photo: S and A Pomerantz

# TREATS AND SUPPLEMENTS

## What should we offer?

By Guen Bradbury, Rabbiting On Veterinary Adviser

There are many different treats and supplements sold for rabbits, and it can be hard to know which ones are appropriate foods for rabbits. They are often cleverly marketed to play on our desire to look after our rabbits and our fear that they might get sick. Nevertheless, many treats and supplements are not good for rabbits. In this article, we'll explore the role of treats and supplements, which ones are available, what the risks are, and what to consider when providing treats for rabbits.

### What is the recommended diet for rabbits?

As a general rule, rabbits need a diet based on 85% grass or feeding hay, 10% greens (can be green leafy vegetables, though ideally should be edible garden weeds) and 5% good-quality nuggets. In the wild, starchy vegetables like carrots or swede, and sugary fruits are not part of a normal rabbit diet.

### What is the role of treats and supplements?

Why do people consider providing treats and supplements? People usually give treats because they want to give the rabbit something that they think is tasty, and they give supplements because they are worried that if they don't, the rabbit might become sick.

People like giving their rabbits 'tasty' foods for several reasons - they like to give variety in the diet, they want the rabbit to like them, or they want to give their rabbits rewards for desired behaviours. Often, they don't realise that there are lots of fresh tasty foods they can give as treats that are as palatable as dry commercial products, and that are also much better for the rabbit.

Many people take supplements themselves to compensate for perceived deficiencies in their own diet, or to try to obtain a specific benefit. They may believe that their rabbit's diet is deficient in a certain way and that it can be rectified by a certain supplement. Sometimes, they interpret the claims on the supplements' packaging to mean that a healthy rabbit will be deficient without the supplement - they may not realise that the recommended diet for rabbits will provide all of the vitamins, minerals, prebiotics, and oral movement that the rabbit needs.

### What treats and supplements can you buy?

So what 'treats' might you see for sale? There are biscuit-type treats - usually flavoured with some sort of vegetable, made primarily of flour, and often coloured and shaped to resemble a vegetable. There are flapjack-type treats - mostly intact grains and herbs stuck together with some form of syrup binder. There are muesli-type mixes, which can't be sold as a 'complete rabbit food' but may be sold as a treat. You may see yogurt or chocolate drop-type treats (neither yogurt nor chocolate are ever appropriate foods for rabbits!). You may see dried fruit (raisins or dried banana) or crushed corn or peas sold as treats. Treats are often described as 'natural' or 'healthy', because these claims aren't regulated, and because the foods are 'complementary' (rather than complete), they do not have to comply with nutritional regulations.

And what 'supplements' might you see for sale? You might see salt licks or multivitamin drops. You might see 'dental treats', that claim to help the rabbit wear down its teeth. You might see treats that claim to 'boost immunity'. Or you may find supplements that are



Treat foods are often marketed to look like they are healthy, even when the main ingredients are refined carbohydrates and oils

Photo: G Bradbury

marketed with very broad claims about lots of different species: "reduces inflammation", "calming and soothing", or "digestive support."

What do you see on the ingredients? "Cereals" or "wholewheat flour" - sounds healthy, but cereals are not a healthy food for a rabbit. "Vegetables" - again, sounds good, but the percentages are usually around 5%, so insignificant. "Dried fruits" or "fruit extracts" - fruits are not good foods for rabbits, they provide a lot of sugar and cause gastrointestinal upset when consumed in excess. And "derivatives of vegetable origin" - this can be anything derived from a plant that can be called a vegetable. Sugar syrup from sugar beet is technically "a vegetable derivative." You may see "sugar" and "vegetable oil" - the same ingredients are in ultra-processed rabbit food as are in ultra-processed human food, and they are equally bad for rabbits as for humans. And the nutritional values are not much help - you can't see the refined carbohydrate or sugar content, as that's not a legal requirement for pet food. This makes it really hard to judge a 'healthy' commercial rabbit treat.

There are various supplements available that claim to support joint health, urinary health, etc. The manufacturers obtain claims on these products based on the claims for human health, and there is no requirement that they are proven to work in rabbits (hence why they don't say "reduces osteoarthritis in rabbits", they say "aids in the prevention of cartilage degeneration" or "exhibits anti-inflammatory properties"). This means that we do not know whether or not they are effective. It is impossible to assess whether a supplement 'prevents' something from happening - so it is not worth using them to prevent a disease. However, if your rabbit already has a disease, you can see if a supplement improves the symptoms. For example, if your rabbit has joint or urinary tract disease, speak to your vet about trialing a supplement alongside their routine care, and see if it makes a difference to your rabbit.

### What are the risks of feeding treats and supplements?

Commercial rabbit treats are typically high in starchy carbohydrates, sugars, and oils and low in fibre. Although they are palatable, they can cause gastrointestinal problems or dental disease. Some are less unhealthy than others, but given the lack of regulation over ingredients, the unclear nutritional information on the label, and the misleading marketing, it's best to provide treats in the form of tasty edible weeds, the rabbits' own nuggets, or occasional fingernail-sized pieces of fruit or starchy vegetables.

Healthy rabbits do not need supplements because a healthy rabbit diet provides all of the nutrients they need. Complete rabbit food (nuggets) has the added vitamins and minerals in the right balance for the amount that the rabbit consumes. Supplements are often designed to be very palatable to make the rabbit eat them - but this can also make the rabbit eat too much of them. When you feed extra vitamins and minerals, you don't know how much the rabbit is already getting in their usual diet, so it is easy to overdose - and this can be as bad or even worse than the deficiency. If you want to increase the variety of nutrients that your



Fresh edible weeds make great treats

Photo: G Bradbury

Photo: G Bradbury



Fresh foods are always more palatable than dry foods, so feed fresh fruit-tree branches if available

rabbit gets in a way that is good for their health, try foraging for edible weeds (see RWAf's website page on 'Recommended Vegetables and Herbs').

### What sorts of treats and supplements should you give to your rabbit?

At the most basic level, a healthy rabbit on a primarily hay and grass-based diet does not require any additional supplements. You may well want to give your rabbits treats - try to choose the sorts of tasty foods that rabbits would encounter in the wild.

So what can you do to make sure you choose the right treats?

- **Feed nuggets as treats:** The recommended diet for rabbits is only 5% nuggets - in practice, this is roughly an egg-cup of nuggets once per day or split into twice per day feeding. Nuggets are made to be very palatable, so you can use the nuggets as rewards when the rabbits come over to see you or obey a command.

- **Avoid things labelled as a 'complementary feed':** There are no regulations on what these can or can't include, so you can't be sure that what you are feeding your rabbit is good for them.

- **Choose fresh treats over dried treats:** Choose fresh dandelions over dried dandelions, fresh edible branches over dried edible branches, and fresh vegetables over dried vegetables. This is because fresh plants are much more tasty for rabbits and they take longer to eat (they are bigger as they contain water), so the rabbit gets more pleasure from them.

- **If you can't find fresh treats, choose whole dried leaves:** If you really want to buy your rabbits a treat, choose treats that are whole dried leaves of herbs or plants. That way you know exactly what is in the packet and you know that it is not too far removed from the foods that your rabbit has evolved to eat.

# WHAT'S UP IN THE FLOWER BORDERS?

By Twigs Way

The heart of the traditional garden is its flower beds and borders, but this can be the most difficult part of the garden for the rabbit carer and their furry friends. Unless you have a vast area for flower beds, endless time on your hands for constant tending and re-planting, and only a very few, not very hungry rabbits, you will have to choose your plants carefully or come to some 'arrangement' over exactly where and when your rabbits get access to the flowering part of the garden.

## Which plants?

As with most plants, those we choose for their colourful flowers can very broadly be divided into 'rabbit edible' and 'rabbit dangerous'. The first category will need some kind of protection from free range rabbits, but are ideal for growing for feeding; the second category will need removing or placing well away from rabbit areas (see Rabbiting On Winter 2020 issue for poisonous plants feature).

Fortunately for flower lovers, there is also a smaller, much-prized group of 'not quite as attractive to rabbits but not dangerously toxic' group of plants in the middle, where a small nibble will not hurt, and the rabbits generally find unpalatable. These are the stalwarts of the flower bed where you intend to have free range rabbits, but do keep an eye out to ensure there are other more edible alternatives available as well.

Variegated plants are also less popular with rabbits, so if there is a version of the plant with a variegated leaf, then buy that one.

## A mixed border

The best chance of success, both in terms of plants surviving and rabbits enjoying, is with a mixed border of rabbit yummys and slightly less edibles. This means any free range rabbits will have to search out their favourites, and might even lose track of some amidst all the riches, giving the plants a chance to get a bit of re-growth on them.

A mix of annuals grown from seed and perennials (usually bought as small plants), will also mean that the small seedlings have more of a chance to get going before being massacred - or can be used to fill in gaps at various seasons.

Herbs are extremely useful mixed in with a flower border and some such as hyssop and rosemary may have some protection against rabbits, due to their very powerful scents and oils. Others such as marjoram can be eaten down to the root in the twitch of a rabbit's tail.



Make sure any fences are tall enough!



Try adding shrub roses into a mixed border

All photos: T Way

## Protecting the flowers from rabbits and vice-versa!

If you have a smaller area, or are dedicated to very rabbit edible plants, you may need to restrict access of specific plants or entire areas. You can do this by simply placing an upside-down wire basket over a plant that is getting too much 'attention', or using some puppy crate panels to section off part of the border more effectively than with wire mesh.

Tall pots can be useful, but active rabbits will scale a 3ft pot with ease and can devastate a pot of tulips in moments. A newly weeded bed or one freshly dug over to put late spring plants in, such as wallflowers, will act as a rabbit-magnet, whereas older established areas are less popular. Roses can usually hold their own once well-established but may need a 'tree protector' around the stem at first, as will other flowering trees.

Another trick to discourage rabbits is to edge the beds with something less attractive such as one of the smellier and tougher herbs - although beware, traditional box edging does contain toxins, which is probably one of the reasons it was used for edging in the first place. Or you can place 'RunAround' tunnels and pipes throughout the beds, and still have a delightful floral garden and active rabbits.

### Top tips

- Pack the borders with a mix of different flowers
- Protect young plants and new shoots
- Think about using pipe tunnels and runs
- Check for toxins before buying new plants
- Feed your rabbits before letting them out into the garden!
- Add in attractive weeds such as cow parsley and meadow cranesbill

## Flower boarder safe and unsafe options

There are thousands of plants for the flower border but here is just a small selection in each category

### Some 'safe plants' for the flower border:

- Buddleia
- Campanulas (dwarf and standard)
- Carnations and Pinks (Dianthus)
- Echinacea purpurea (Cone Flower)
- Fuchsia
- Hardy Geranium of all kinds (also known as Cranesbills)
- Hollyhock

- Lamium
- Lavatera (Tree Mallow)
- Lambs ears (Stachys byzantina)
- Michaelmas Daisy
- Nasturtium
- Pansies
- Phlox
- Roses
- Rudbeckia
- Snow-in-Summer (Cerastium tomentosum)
- Strawberries
- Sunflower
- Verbena bonariensis
- Wallflowers (Erysimum)
- Yarrow
- And many types of herbs including marjoram, mint oregano and thyme.

**Some 'rabbit resistant but not highly toxic' plants for the flower border:**

- African Marigold (Tagetes erecta)
- Aquilegia (Columbine)
- Aubretia
- Bergenia (Elephants ears)
- Brunnera macrophylla
- Dahlias
- Forget me Not
- Helichrysum (Curry Plant)
- Irises
- Japanese Anemone (Anemone



- hupehensis)
- Lady's Mantle (Alchemilla mollis)
- Leucanthemum (Ox Eye Daisies and other cultivars)
- Lavender (they will nibble)
- Nepeta (buy the large ones)
- Pelargonium
- Pot Marigold (the English Marigold)
- Primula
- Pulmonaria (lungworts)
- Salvias (annuals)
- Veronica gentioides etc.

**Some 'definitely not for the rabbit' flower border:**

- Aconites

- Calla Lily
- Cineraria
- Daphne
- Foxgloves
- Lily of the Valley
- Lupins
- Oleander
- Opium poppy
- Peony (roots and tubers).

**Further information**

<https://www.facebook.com/parsleyswarren.uk>

With thanks to Eileen Walthall - <https://www.facebook.com/groups/wildnutritionforrabbits>

pet remedy

natural de-stress & calming

Will help stressed or anxious rabbits, as well as cats, dogs, horses, and other mammals and birds



When bonding – spray a little on a damp cloth or on your fingers, or use calming wipe, then gently rub around muzzle and front of chest of rabbits. This helps with scent swapping as well as calming and this dual action will help speed up the bonding process.



TRAVEL • SETTLING • HOME ALONE • PARTYSEASON

WIN PRODUCTS

For your chance to WIN one of 10 Pet Remedy Pocket Calming Sprays & Box of 12 Calming Wipes simply email your name, address and RWF membership number to: WIN FREE PRODUCTS [rocompetitions@rabbitwelfare.co.uk](mailto:rocompetitions@rabbitwelfare.co.uk) The first 10 names drawn at random after the closing date of the 30th September 2021 will be sent their prizes.



Available from RWF, your local vet, Pets at Home and other pet shops, or online at [www.petremedy.co.uk](http://www.petremedy.co.uk)

Of rabbit owners surveyed, 77.8% were already aware of uterine issues

Photo: K Couzens

# UTERINE CANCERS IN FEMALE RABBITS: Are rabbits in the UK at risk due to lack of information and education?

By Vanessa Dugan

In recent years, there has been a major drive by veterinarians and various welfare bodies to educate dog and cat owners within the UK of the importance of spaying/neutering their animals. This, overall, has been successful in beginning to reduce not only the number of unwanted pregnancies but also the risk of various diseases/disorders that may occur from leaving the animal intact. Rabbits as pets are becoming more desirable within the UK, but there is yet to be any similar information campaign of the same scale, to make owners aware of the benefits of spaying their female rabbit. My research project was circulated via social media channels to rabbit owners and received 334 responses, and via email to 300 veterinary surgeries and 200 rescue centres, all residing within the UK. Its intention was to identify the risk and proactive factors concerning the high incidences of uterine cancers, which is one of the many by-products of not spaying a doe, within un-spayed rabbits over three<sup>1</sup> and how prevalent the incidences are within the UK and how easily accessible the information is.

Also, from a welfare perspective, rabbits require companionship, and spaying a doe rabbit allows the increased welfare benefit of a lifelong companionship with a bonded, neutered male, without the repeated risk of unwanted pregnancies, fighting and also negating the risk of developing a reproductive disorder.

In previous research, it has already been established that doe rabbits, over three years of age, have a predisposition to contracting a reproductive disorder, the most common being uterine adenocarcinoma, endometrial hyperplasia, mammary gland tumours and ovarian tumours<sup>2</sup>. They have a cycle that lasts 16-18 days, of which the female is receptive for 12-14, and this cycle is regulated by ovarian hormone production of oestrogen and will continue regardless of whether she becomes pregnant or not<sup>2</sup>. The repeated placenta formation, the constant changes to the uterine wall<sup>3</sup>, the almost constant state of hormonal flux all take their toll on her reproductive system<sup>5</sup>, yet incidences of unspayed does within the UK rabbit population are around 60%<sup>4</sup> and could be as high as 80%<sup>5/6</sup>.

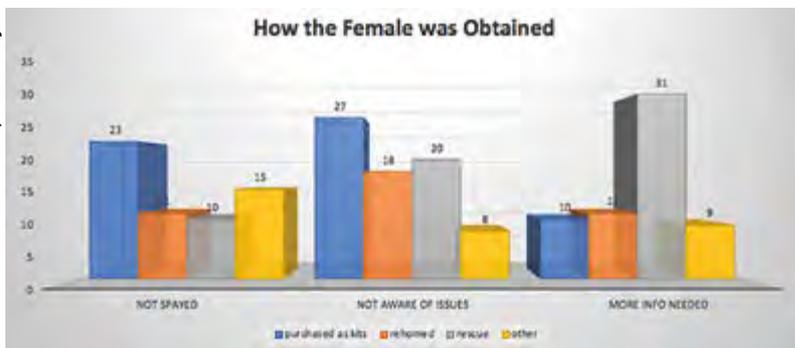
## Factors for owners not spaying their rabbits

The results of the questionnaires circulated to rabbit owners does indeed show, as hypothesised, the cost of the procedure was a major factor in choosing not to spay their doe, at 23.7%, and the risk of anaesthesia was the other main reason. In fact, it accounted for the largest percentage of all the options, at 30.5%, with lack of information only accounting for 6.8%. The specific question of whether the owner was aware of uterine disorders had



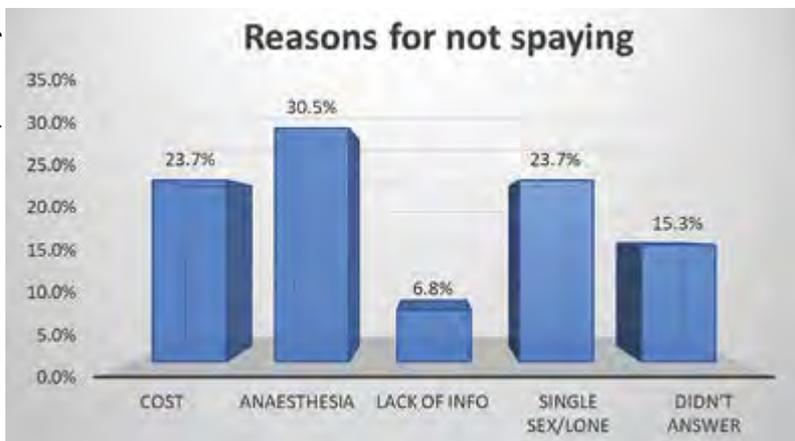
Photo: M Guard

The cost of spaying was a reason not to do so for many owners



a significant result - although it was not the original research question, it is associated with the amount of information available about health issues.

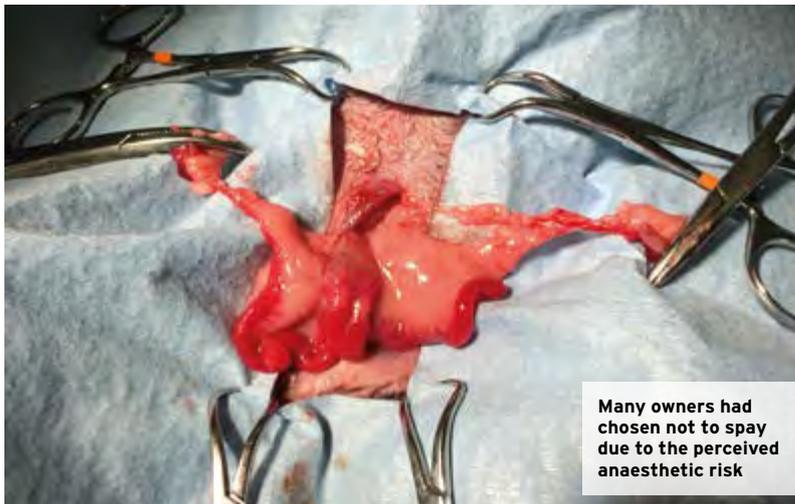
Of the rabbit owners questioned, 21.2% had chosen not to have their doe neutered; but what stands out from this figure is that 13.2% of this group had also answered that they were already aware of uterine disorders, and how spaying of the doe can prevent this, yet they still chose not to spay. This figure was unexpected, as it was assumed at the outset of the research project, any owners who chose not to spay would be unaware. On further investigation into this, many of the aware owners had chosen not to due to information regarding the dangers of anaesthesia and rabbits. A death rate of



0.79% shows that all surgery on rabbits under general anaesthesia is higher when compared to cats and dogs (which comes with a risk 0.19% and 0.12% respectively<sup>7</sup>), but when this is compared to the 21.7% chance of developing uterine cancer<sup>2</sup>, the benefits far outweigh the risk. This is where an exotic/ rabbit savvy vet is important.

### Unspayed does in rescue centres

When asked if they felt there was a problem in their area with unspayed doe rabbits, 83% of the rescue centres said they felt that it was, giving over 70% of does still intact when taken into rescue in their area as a figure. When this information is compared to the veterinary responses to the same question, the difference in the answers is stark. Only 8% of vets believe that there is an issue in their area. There could be many reasons for the difference in the



answers given by the rescue centres and vets, one of which is the rescue centres see the 'other side' to animal care. The veterinary practices may have clients who are either willing to, or have the money to spend on caring for their rabbits. The rescue centres, on the other hand, quite often see the neglect and unwanted rabbits which can arise from lack of education, lack of finances or unfortunately in some cases, lack of care. In 2017 rabbits only made up 2% of the vet visiting population, compared to dogs at 64.8% and cats 30.3%<sup>8</sup>. Even though there are 10.1 million dogs<sup>9</sup> in the UK, and you would expect there to be more dogs registered because of this, direct comparison, in real terms, still leaves the number out of the 1.2 million rabbits in the UK being registered with a vet, still much lower.

### Perceptions in surveyed groups

Of rabbit owners surveyed, 77.8% were already aware of uterine issues but 81.6% still feel that more information is required, and 91.6% feel that a nationwide campaign is required. Of rescue centres, 97% agree that more information should be available but interestingly only 33% of veterinary practices. However, 100% of both rescue centres and vets agree, and think, a nationwide campaign to alert rabbit owners to the benefits of spaying their doe would be a good idea.

The cost of the spay operation was a major factor in the decision of many of the rabbit owners surveyed and this reason is a valid one, but unfortunately it is the doe who suffers if their owner is unable to pay for the operation. Of the rescue centres who responded to the questionnaire, 30% say they do help owners who may struggle financially to spay their doe, and all but two commented that they would, if they had the funding available.

### The age of spaying

As the years of ownership progress, there is a direct relation to how many owners chose to spay their doe. From less than one year to 5+ years of age, there is a gradual increase in does that are spayed and a decrease in does who are unspayed. There are still unspayed does in the 5 year+ category, but the percentage of the total number is much lower. Whether the reason for this is due to increased knowledge, or due to the likelihood that people who do not spay their doe are less likely to look after other aspects of their welfare, it is unknown from the data gathered in this investigation. Of the people surveyed, 54.4% said they did not receive any information with regards to uterine disorders from the vet when they registered their doe, or at any point after. This information lends itself to the original hypothesis of 'is lack of information the reason to not spaying a doe' and would suggest that the target area for any campaign that may be created should be all owners, but in particular those who are new to rabbit ownership would benefit the most.

Another possible supporting argument is that people who purchased their rabbits as babies from a breeder were less likely to spay their doe, and less informed about uterine issues, yet rabbits obtained from rescues are the lowest in the unspayed category and the highest in the request for more information to be available to owners. This showed a direct relation between the awareness of health issues and how the doe was obtained, and the owners who rescue rather than buy appear to be more informed.

### Conclusion

The conclusion of the investigation is that yes, there are many who are aware of the issues and becoming more aware of how to care for their doe correctly, but with misleading and misinformation still being the reason for owners choosing not to spay, a lot more still needs to be done. This needs to be in the form of easily accessible information, that is written in a language that the general public can understand, to use to make the right decision. Without this, many more does will suffer and die unnecessarily in the UK through nothing more than lack of knowledge.

References available upon request.

# MELOXICAM USE IN RABBITS

By Elisabetta Mancinelli,  
Specialist Veterinary Surgeon

Photo: D Staggs



The tasty liquid formulation mostly makes administration to rabbits easy

## Introduction

Recognising, assessing and managing pain in rabbits can be very challenging for both owners and vets. Rabbits are a prey species and, as such, designed to mask clinical signs of pain and disease. Signs of pain can be very subtle in this species and difficult to identify. It is generally accepted that any procedure or disease likely to cause pain in human beings or other animals, should be expected to cause pain in rabbits as well. We know, in fact, that rabbits use the same mechanisms as humans to produce pain and therefore have the capacity to feel pain as we do. Common conditions potentially causing pain in rabbits may include gastrointestinal problems (e.g., gut stasis), dental disease, surgery of any type (including neutering), trauma and osteoarthritis to name a few.

Pain can have many serious consequences if left untreated, as it can delay healing, lower immune responses, cause stomach ulcers, alter the balance of normal bacteria in the rabbits' guts or other gut issues, result in heart or kidney problems and ultimately increase morbidity and mortality, as well as having negative welfare consequences. Therefore, an adequate pain management plan is essential to relieve an animal from discomfort and suffering, allow a more rapid return to a normal behaviour and guarantee a better quality of life. An optimal pain management plan often involves the use of multiple drugs, acting differently on the pain pathways, so that smaller doses of each drug can be used, thereby enhancing pain relief and reducing the likelihood of undesirable effects.



Photo: R Sibbald

## Pain relief medications

The selection of the appropriate drug to use should be based on the type and intensity of pain present, as well as knowledge of pain physiology (how pain is perceived), and the properties of a specific drug, in the particular species in which the drug is used. Often, difficulties arise when studies for the use of a certain pain killer are not available and dosages and/or protocols are simply extrapolated from one species to another without much consideration for species-specific anatomic, physiological and behavioral differences. That's why we should try to follow the available information on dosages as much as possible, as this increases drug efficacy and reduces its side effects. Over the last 10-15

Photo: C Speight



Meloxicam typically comes in a liquid preparation

years, our knowledge of rabbit medicine and surgery has dramatically improved. This has allowed an improved level of comfort for our pet rabbits, which are now living longer, with an increased potential to experience discomfort and/or pain secondary to disease or illness at some point in their life.

## Meloxicam

**Indications** - There are several major classes of pain killers used for management of acute and chronic pain in rabbits. Amongst these, Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are probably the most commonly prescribed veterinary analgesics. In particular, Meloxicam has certainly become one of the NSAIDs most commonly used in rabbits to block a painful stimulus and decrease inflammation. Meloxicam can only be prescribed by a veterinary surgeon to an animal that is under his/her care. This drug is generally used to prevent and alleviate different types of pain, such as acute pain following a surgical procedure (e.g., from neutering to an orthopedic surgery), traumatic pain (e.g., fractured leg), or to reduce inflammation and discomfort in acute and chronic musculoskeletal disorders (e.g., osteoarthritis or joint disease). Depending on the intensity of pain, meloxicam may need to be used together with other classes of pain killers to make sure the level of comfort for a rabbit is adequate.

**Safety and side effects** - The main concerns are related to its possible side effects. These may include impaired kidney function, gastrointestinal problems and bleeding disorders, especially when used for extended periods of time. Therefore, administration to rabbits with pre-existing disease should be carefully evaluated. For example, if a rabbit is dehydrated or has underlying renal and/or liver disease, meloxicam given at high repeated doses and/or long term could lead to drug build up, overdose and further kidney damage. In these cases, the veterinary surgeon may advise a reduced dose for a shorter period of time alongside repeated blood tests to keep the kidney and liver function closely monitored, or he/she may opt to avoid its use altogether and consider alternative options. Also, meloxicam should be used with caution just before an animal is undergoing surgery, as it may affect the function of the kidneys, already under strain because of the general anaesthetic given to the patient. In this situation, other pain killers should be considered, and meloxicam administration delayed until the rabbit is fully recovered and with a normal blood pressure. Gastrointestinal side effects may also be seen (e.g., from soft droppings, diarrhoea, upset stomach to ulcerations and bleeding in severe cases). Soft droppings or diarrhoea may be commonly seen in rabbits on meloxicam but it is currently unclear how much of a concern the other gastrointestinal side effects may be in rabbits as they do not vomit, and blood is difficult to see in their faeces. These side effects are not common but this concern should be borne in mind. To reduce side effects, it is also important that meloxicam is not given with other anti-inflammatory drugs or steroids. In humans with underlying issues, there is a small risk that NSAIDs may lead to cardiac failure. It is unknown whether this is a risk in rabbits. It must be stressed that the several studies performed on safety and efficacy of meloxicam in rabbits showed that, if this drug is given at the appropriate dosage and for a short period of time, side effects and blood parameters changes are



Photo: S Brough

Over the last 10-15 years, our knowledge of rabbit medicine and surgery has dramatically improved

uncommon in healthy rabbits. Nevertheless, care must be used at all times and rabbits on meloxicam, especially where this drug is used long-term, should be monitored carefully.

**Administration** - Meloxicam typically comes in a liquid preparation. As this drug is not licensed for rabbits, only a dog and a cat (less concentrated and therefore less used for regular sized rabbits) suspension exist. These can be administered directly into the mouth or mixed with food (a small portion should be offered to avoid underdosing your rabbit). The tasty liquid formulation mostly makes administration to rabbits easy. However, occasionally some rabbits may not be so amenable to direct administration into their mouth. In this case, a small amount of mashed banana, tinned pear or applesauce may be used to mask meloxicam's taste. Many owners also like to coat the pre-filled syringe with the correct dose of meloxicam to give their rabbit with applesauce or mashed banana so that it has a nicer taste. Occasionally, a rabbit may need to be gently handled and wrapped in a towel to allow easier direct oral administration. In this case, safe handling is essential to avoid trauma and stress to the rabbit.

## Meloxicam's dose

Several studies have now been performed to evaluate efficacy, analgesic effects, safety and side effects of meloxicam administered to rabbits at different dosages. Rabbits seem to be able to metabolise meloxicam faster than dogs and humans and the traditional 0.2mg/kg once prescribed seems unable to produce adequate pain relief in this species. In fact, dosages as high as 1mg/kg may be necessary to achieve clinically effective concentration, but the dosage may vary from rabbit to rabbit depending upon the reason for administration and overall health of the rabbit. Whatever the dose prescribed, always remember not to alter the dosage that your vet has prescribed without discussing this with your vet first and always seek advice if you notice or are concerned about any side effects.

## RWAF Note

Due to VMD regulations, we are unable to mention trade names of any prescription only medications (POM-V), and generic drug names are used throughout.



Pain can have many serious consequences if left untreated

Photo: E Mancinelli and J Hedley

# CAMPAIGN UPDATE

Welcome to another Campaign Update, keeping you informed of our constant fight to make things better for bunnies.

## Rabbit Welfare Association & Fund – Animal Welfare Officer Update, January to June 2021

2020 was an unprecedented year for Animal Welfare Operations, not only did we see the whole country locked down for the majority of the year, but also witnessed an exponential rise on the amount of online sellers, with an operation concentrating on developing intelligence around the activities of breeders on one sales platform, revealing a disturbing trend in new accounts being opened through the duration of Lockdowns 1 and 2.

As you will know, this resulted in the creation of 368 cases in the year, which was then a record for the RWA's Animal Welfare Officer.

Far from the pace in 2021 slowing down, we have had a bumper crop of activity taking place so far, which has seen 173 cases raised in 2021 so far, an increase of 40 cases over the activity to date in June of 2020. If this pace continues we suspect that the 2021 case tally will be far in excess of 2020's activities.

### Operations

Despite the fact that we remain under Covid-19 controls, which has restricted some of the field-work we would normally have undertaken, the AWO has been able to carry out some field work covering locations ranging from Central London to Kent, Essex and Suffolk.

Planned intelligence visits in Wales and Scotland have had to be shelved for the time being, due to ongoing Covid issues, as have any plans to carry out operations in the North West, due to enhanced controls in place to deal with the Delta Variant of the C-19 virus.

Due to the restrictions we have been operating under, a large amount of the work in 2021 has involved open source research, and following up a marked increase in reports of concerns from members of the public and RWA members.

Whilst we do not have the resources to operate a uniformed inspection service like the RSPCA, we do take all reports seriously and provide the best advice possible to ensure that areas of concern are addressed. This may take the form of signposting to appropriate agencies, which can include local authorities, the Police or the RSPCA but will also often involve longer term intelligence development work, in the hopes of building up a picture that will enable us to make a strong referral to the relevant agency for action to be taken.

This year has also seen us having some success with having "offending" sellers removed from various online sales platforms.

To date this year we have worked with/passed information to:

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| a) HMRC;                            | d) Crimestoppers;                    |
| b) The RSPCA;                       | e) The National Wildlife Crime Unit; |
| c) The League Against Cruel Sports; | f) Local Authorities in England,     |

Wales and Scotland (Trading Standards, Licensing and Planning Authorities);

g) Police Forces in England, Wales and Scotland;

h) The Environment Agency.

Alongside our traditional Animal Welfare operations, you will be aware that we can often identify other criminality matters, and this year we have also provided intelligence to various agencies on matters relating to:

- |                                     |   |
|-------------------------------------|---|
| a) The trade in endangered species; | including unsafe consumer products;   |
| b) Vehicle Crime;                   | j) Covid-19 offences;   |
| c) Fly tipping;                     | K) Hunting crime;   |
| d) Cultural Crime and Theft;        | L) Excise fraud;  |
| e) Metal Theft;                     | M) Scrap Metal Licensing offences;  |
| f) Drug supply;                     | N) Non-rabbit Animal Welfare matters concerning Dog Breeding and other animal activity licensing matters. |
| g) Fraud;                           |   |
| h) Product counterfeiting;          |   |
| i) Trading Standards offences       |   |

As we have previously explained, offences rarely happen in isolation, and when matters are identified affecting Animal Welfare or Animal Health, then you will also be likely to find other allied matters that give cause for concern, when this happens we use appropriate gateways and routes to pass the intelligence identified to the correct agency for action to be taken.

### • Case Study 1

In May 2021, whilst carrying out a routine check on mini lop sales on a popular online sales platform, a new trader was identified who had opened their account in that same month; the trader was offering a new litter of rabbits for £80 per animal.

As part of our usual work on traders, this one was flagged for monitoring and placed in our database for UK traders identified via internet sales platforms. When the telephone number they were using was entered, it pre-populated indicating that there was another trader using the number. A quick search of the system revealed three markedly different names having used the same number since April 2020, on the same trading platform and in the same UK location.

This is an indication of an attempt to circumvent selling rules, but also to prevent agencies from accurately assessing throughput of litters on to sites, which could make assessments of earning very difficult particularly from HMRC/Benefits providers.

A case was raised and the intelligence we had gathered on each identity was provided to the trading platform's standards team, as a result they immediately closed the account and have flagged

the individual's details in case they are used with that number again.

In the meantime the AWO is now working on a case file to refer the individual to their local authority for unlicensed pet trading.

It is rare to be able to tie one individual down to multiple identities decisively, so this success in disrupting the breeder's activity has been particularly noteworthy for us.

• **Case Study 2**

In May 2021, a member of the public approached head office to complain about the activities of an individual who was selling rabbits via Facebook and another trading platform; there were concerns about the welfare conditions for her animals, evident from the complainant's previous dealings with the trader, and what could be seen online.

A quick consultation of the trading platform's terms and conditions indicated that the sale of animals was prohibited, so using the same tactics as those in Case Study 1, a file of evidence was collated and passed to the Standards Department who immediately closed the trading account.

Whilst this will not stop the individual(s) concerned, it does disrupt and inconvenience them, which is a proven tactic for mitigating their potential impact in the market and their definite impact on animal welfare in the UK. A case file has been raised, and the AWO is hoping to refer this trader to the local authority for unlicensed pet trading this year.

**Other work**

Along with the normal duties of the AWO (proactive breeder and seller work), there has also been a considerable amount of work this year going into supporting Head Office with an increase in contacts regarding concerns for welfare.

There has also been a considerable shift in emphasis on open-source research and monitoring to cover issues relating to a number of planning applications across the UK, relating to business(es) hoping to farm rabbits. This sudden uptick in applications has generated a considerable amount of work, both from within the organization and from concerned members.

The AWO also now provides technical advice and guidance to the Rabbiting On publication, in the Ask the Experts section.

**Half year's Statistics**

**Total Cases in 2021 (Jan to June year to date)**

Month	Number raised
January	43
February	33
March	24
April	32
May	21
June (to 12/06/2021)	19
<b>Total</b>	<b>172</b>



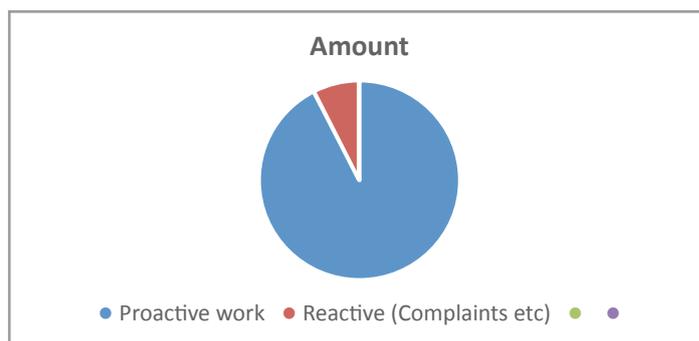
**Geographical Spread**

Location	Number of Traders
England	144
Wales	9
Scotland	3
Northern Ireland	0
Rest of the World	16



As can be seen at the moment 84% of our trader work is located in England, 5.2% in Wales, 1.7% in Scotland and 9.3% outside the United Kingdom.

It is not believed that this is wholly representative of the picture in the UK at present, and we anticipate further intelligence research and analysis on this to identify what the true scale is more likely to be, particularly with regard to the breeder situation in Northern Ireland, Wales and Scotland.



**Source of work**

Currently of the 172 cases we are running, there have been 13 reactive cases (generated from complaints etc.) and 159 proactive cases (generated from monitoring and observation work).

**What next?**

We anticipate a busy summer for Animal Welfare Operations, particularly as planned C-19 relaxations in late June, July and August, could well lead to an increase in welfare issues, as well as the fact that breeder numbers are showing no sign of reducing. At present workloads and planned activities look like this:

- 1) We currently have 3 large cases being worked up for referral to Local Authorities and HMRC, and these are taking up a considerable amount of time
- 2) Plans are being drawn up for Geographical projects, these will be about 3 months in duration per region, and will concentrate on Scotland, Wales and Northern Ireland/Isle of man
- 3) Individual site monitoring is ongoing as is licensed trader monitoring (once Covid-19 restrictions permit full reopening)
- 4) We will continue to work with data supplied to us by partner agencies and self-generate data to identify, track and appropriately refer rabbit breeders and sellers as they appear an continue to proliferate.

**Update by Mark Dron, RWAf AWO**

# RWAF stance on lop-eared and brachycephalic rabbits

Going forwards, the RWAF will seek to use images of up-eared and longer faced rabbits



Photo: Oleksandr Lytvynenko - Shutterstock

“Although there are a number of things we have, as a species, done to rabbits genetically, I don’t think any are as significant to their health and welfare as the development of brachycephalic (short faced), and lop (ears flopping down) breeds. And this isn’t just opinion, there is science behind it, although it’s also important to remember that rabbits are not small dogs, and their health problems are different from dogs with these features.

“Brachycephaly essentially means that the nose and mouth are less prominent, more flattened, changing the shape to a “cuter” one, but also affecting the anatomy of the head in several ways, none to the benefit of the rabbit. Whilst there is crowding of the back teeth, and a definite but not absolute link with incisor malocclusion (not all brachycephalic rabbits have the congenitally out of alignment incisors seen so dramatically in some cases), the main problem is the way the normal nasolacrimal duct, which carries tears from the eye to the nose, becomes tortuous and convoluted and more easily blocked. However, these rabbits aren’t thought to be significantly affected by the respiratory issues seen in dogs. They are already obligate nasal breathers, and so an overlong soft palate doesn’t really get in the way. The airway size does not seem decreased in such breeds, their nostrils remain normal, and so the effects are mainly regarding teeth and tear drainage, which can result in infections and blockages of the duct.

“Lop ears, likewise, cause slightly different issues than in dogs with long drooping ears. In the latter, ear infections, grass seeds and trauma are common. In rabbits, the lop nature of the ear creates a situation akin to taking a cardboard kitchen roll inner and folding it in half. The lumen, the hole down the centre, closes, and the sections of the tube separate. In rabbit ear terms, this narrows the ear canal, reducing air flow into the ear and making it more difficult for anything to drain from the ear. More significantly, the separation of the cartilage hoops that make up the ear allows any build-up of waxy material to push between them under the skin. This isn’t an abscess, or at least not initially, until it bursts and releases material into direct contact with the tissues. But the mass may grow and spread round the delicate structures of the head, and become

impossible to remove, damaging soft tissue and bone alike, in the process.

“Our survey a few years ago demonstrated that only 27% of such masses were found solely or mainly in “up-eared” rabbits.

“For these and other reasons, I firmly believe we need to breed back to an up eared and longer faced, more wild type, rabbit.

“To this end, we will move to not using images of such breeds in Rabbiting On and the RWAF website other than to illustrate breed specific health and welfare issues. Although there are several issues in press which are too late to change, this policy will start as soon as possible.

“We may make the occasional, rare exception where an uncommon condition which is of significant concern to the membership can only be illustrated with such a rabbit, and we will still be featuring peoples pictures of such individuals where relevant”, Richard Saunders, RWAF Veterinary Adviser.

## Welfare and Ethics day

In conjunction with The Webinar Vet, our Welfare and Ethics day took place on the 5th June.

A huge thank you to our wonderful and passionate Patron, Dr Emma Milne, for being a fantastic Chair and speaker. Of course thanks also to everyone that delivered a lecture for us, all of our speakers were truly fabulous and really brought home some of the many problems that companion rabbits face. We do hope that it has provoked some thought and not just triggered people into a defensive response, but will make people wonder what they can do to help improve welfare. We can all do something.

Emma rounds up the day for us, “In the morning, the fabulous Dr Richard Saunders covered the dreadful issue that is brachycephalics, and the profound impact on rabbits. Key messages included: Breed for health not looks - I couldn’t agree more, as you know! Then Dr Nadene Stapleton gave a superb and comprehensive talk on diet. Key messages: NEVER feed muesli mixes, NEVER feed human treats, these should be viewed as badly as cigarettes! Then it was me: rabbit showing has clear negative impacts of health and welfare and is unethical.

“Great talks from RSPCA (England & Wales), PDSA and The Rabbit Welfare Association and Fund in our second session. For those of you vets out there who want to make your practices more rabbit friendly, please check out the PDSA PetWise initiative and MOTs. They’re absolutely brilliant. “Shockingly we do not have (in England) codes of practice written for rabbits, something that RWAF and many other stakeholders are aiming to rectify.

“Rabbits are our ‘forgotten pets’, and shockingly only 20% of owners have heard of the 5 Welfare Needs, and more than half of owners don’t like one or more of their pet’s behaviour, all of which are completely normal for the animal! It seems we have a way to go.

“In the afternoon session, we heard from Dr Nicola Rooney at University of Bristol, Dan from Vet Compass at The Royal Veterinary College (RVC), Dr Naomi Harvey and me once more. Key messages from these talks and the day in general seem to be the we are still massively failing pet rabbits in lots of ways. Many don’t have suitable companions, the right diet or enough room, and when they do have room they don’t have anything to do in it.

“We need to think very carefully about whether rabbits are a species that should even be kept as a pet. They are certainly not suitable for children and possibly not even for many adults. Can we EVER give them what they would have in the wild?

“They live a long time, have many complex welfare needs and are NOT a cheap, disposable pet.

“Studies show that flystrike, which is a terrible disease and totally preventable, is sadly,

It DOES matter.

- Around 1,000,000 rabbits in the UK (PDSA Paw report 2020)
- Difficult to keep and often misunderstood and neglected.
- Add to this the worsening extremes of conformation.
  - 500,000+ lops+ all the other issues.
- Conformation issues are lifelong regardless of husbandry.
  - Born to suffer
- Being normalised just as with dogs and cats.



### One of the message from our Welfare and Ethics day-(E Milne)

the number one cause of rabbit deaths - utterly shocking.

“If you have a sole house rabbit that is very friendly and companionable it may be because it simply doesn’t have a choice about who its best friend is. People encouraged to get another rabbit often find that their rabbit deserts them, but is also much happier and displays behaviours that the owner has never seen before because they are finally happy.

“Just having a companion for your rabbit isn’t enough. They need to be a compatible pair or they just live in fear and they need SPACE and enrichment in that space.

“They need long fibre, like hay and grass (not clippings) more than any other food.

“People find brachycephalic rabbits cute, so the trend is going the same way as dogs. It is catastrophic for rabbits and their teeth and brings many other issues too. We should not be breeding ANY lop-eared rabbits, and at the moment they account for more than half the rabbits in the UK. Extreme conformation is unacceptable in all species, including rabbits and has to stop. You need to know their needs and think LONG and HARD before getting them. And then probably decide against it. Sorry!

“RWAF and I wanted to do the topic proud, let’s hope that welfare improves as a result”.



THE HAY EXPERTS



For all your rabbits needs ... *and all their desires too!*

Visit us online today

[www.TheHayExperts.co.uk](http://www.TheHayExperts.co.uk)



Call 01189 099 066 | eMail [sales@thehayexperts.co.uk](mailto:sales@thehayexperts.co.uk)



# IT'S MY BUNNIES

**If these are your bunnies, then there is a prize waiting for you to claim**

**The owner of this issue's lucky bunnies will receive a mystery prize**

If these are your bunnies, all you have to do is send the bunnies names, along with your name and address and your RWAFF membership number to: It's my Bunny, Rabbiting On, RWAFF, Enigma House, Culmhead Business Park, Taunton, Somerset TA3 7DY.

In each issue of Rabbiting On we picture a different bunny (or bunnies), chosen from all of the photos sent to Rabbiting On, and that bunnies owner wins a mystery prize. So keep looking, it could be your rabbit next time. But hurry - you need to claim your prize before the next issue of Rabbiting On is published.

There's also a chance that your bunny could be chosen to appear on a future cover of Rabbiting On, or to illustrate a feature in the magazine, so keep on sending in your pictures.

## **RULES FOR PHOTO SUBMISSIONS**

We love to see all your lovely rabbit photos. You can submit prints and CDs to the address above (make sure they're labeled with your name, address and the rabbit's name).

You can also submit digital images. Unfortunately some readers send us photos that we're unable to use, because they're not high enough resolution for printing in the magazine, or the rabbit's or owner's name aren't supplied.

Please email your photos to: [rwafphotos@gmail.com](mailto:rwafphotos@gmail.com)

Also, it's vital that your camera is set up properly before you take your photos, as it isn't possible to increase the resolution afterwards. We need you to set your camera to the highest image quality. Any photo files you submit should be about 1 - 1.5MB if it's a jpeg file, and around 2.5 - 3MB if it's a tiff file (please compress tiff files before sending).

If you have difficulties with the online form, please contact [info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk), or the helpline on **0191 933 9000**, and we'll do what we can to help.

## Bring out your bunny's natural behaviour

Designed, tested and researched for safety. Vet approved.

All expertly designed with enrichment in mind, our Haven products provide a stimulating warren of tunnels, hideouts and pathways to explore, exercise, play and rest.

- ✓ Extensively-researched, mightily clever designs – full of possibilities!
- ✓ Durable cardboard that stays sturdy – even with the most enthusiastic bunnies
- ✓ Construct and reconfigure to your bunnies' own desires.

"My rabbits absolutely adore it. They finally destroyed one after many years. Highly recommended!" Victoria, Amsterdam

To improve the lives of domestic bunnies, we donate £1 from the sale of each product to the Rabbit Welfare Association & Fund.

To find out more and to order  
[wildwoodbunnies.com](http://wildwoodbunnies.com)  
[sue@wildwoodbunnies.com](mailto:sue@wildwoodbunnies.com)

Wildwood  
Bunnies

Only official UK stockist



# Hop Inn®

'Powered by Rabbits & Guinea Pigs'

## Discover our Handmade Hideouts

Built to Last - Arrives Ready Made  
Next Working Day Delivery



Our website: [hop-inn.co.uk](http://hop-inn.co.uk)  
 Email: [lisa@hop-inn.co.uk](mailto:lisa@hop-inn.co.uk)

# RabbitRetail.co.uk

The one hop shop for you and your bunny

A shop for bunny lovers by bunny lovers. Everything 'For Bunny' is 100% safe and rabbit approved. Rabbit Retail has all the toys, treats and accessories your bunny could want (and possibly not want e.g. nail clippers!) from hay to rabbit castles to custom Bun-dles. The 'For You' range is a collection of vegan and eco, bunny-themed home décor, fashion and gifts by small businesses and independent artists.

RWAF15



Enter code at checkout for 15% off  
 Valid until 31.12.2021  
 One code per customer  
 Not valid with other offers or Bun-dles



RabbitRetail.co.uk



Follow us @RabbitRetail.co.uk

## Bun-dles



See what we did there? Pick and Mix 6 items for your **Bun-dle Box** from bunny safe toys, treats and accessories.

The **Bun-dle Basket**: the same great choice, presented in a Chill N Snooze bed.

The **Bun-dle Boxette**: a little box of three items. Our Bun-dles are Subscription free for zero waste!



# READERS' LETTERS



Binky and Flame's Rabbiting On cover is proudly displayed

## Binky and Flame's Fame

We would like to thank you so very much for choosing the photograph of our bunnies, Binky and Flame, for your Spring edition cover photo, as winners of the 2020 Cover Star competition.

To say we are proud parents would be an understatement. We have purchased an extra copy and had it framed. It is proudly displayed in our lounge.

It has really been brightened up what has been a difficult 12 months for us, as it has been for so many.

The wonderful prize received from Burgess has gone down a treat between our five rabbits.

**Robin and Karen Wells.... And not forgetting the Bunnies!**



Spock has learnt to jump up on her chair for food

## Hello from Sweden

I live in Umeå in the north of Sweden. Here in Sweden, knowledge about rabbits is not so good as in the UK, but it's slowly getting better.

I currently have two rabbits; Spock will soon be seven years old and Morrigan is one year old. Very sadly, Nano passed away in March this year.

During the pandemic the rabbits have been very good company when I have had to spend a lot of time at home. I work as a librarian, but the last year I have often worked at home, and Nano always liked to help. She even participated in a Teams meeting!

Two of Spock's favourite things in life are lying on the sofa and eating. So it's quite easy to teach her things, she does almost anything for food. She has got her own little chair and learnt to sit on it to get her dinner - now I only have to show her the chair and she jumps onto it.

Morrigan is very lively and curious. I have built an enclosure outside the door to my flat, so she can sit there and watch everything that happens outside. Luckily my neighbours are positive to my rabbits and they often comment and ask questions. I always tell them that the rabbits are free roaming and do not live in a cage - most of the time people are surprised by this.

**Hanna Widman**



Nano helped Hanna during the pandemic, when working from home



Morrigan is very curious

Rabbits are complicated animals to care for, and mistakes are common

All photos: A Jones

# FROM A TO B(UNNY) – The continuous evolution of a rabbit owner

By Andrew Jones

If you've ever posted something rabbit-related on social media, it is possible you have been told you're "doing something wrong". Rather than point out problems with how you might be looking after your rabbits, I wanted to share some mistakes my partner and I have unintentionally made over the past eight years of rabbit ownership.

This isn't excusing our past behaviour, or recommending anything we used to do – but a retrospective on ourselves! Even if you haven't made the same mistakes as us, hopefully this will encourage us all to consider what mistakes we might not realise we're making.

## Unsuitable accommodation

When we first started thinking about adopting rabbits, we'd pre-selected the accommodation that we, as humans, quite liked; we'd chosen a "multi-level pagoda" indoor rabbit house, complete with corridors and lattice "walls".

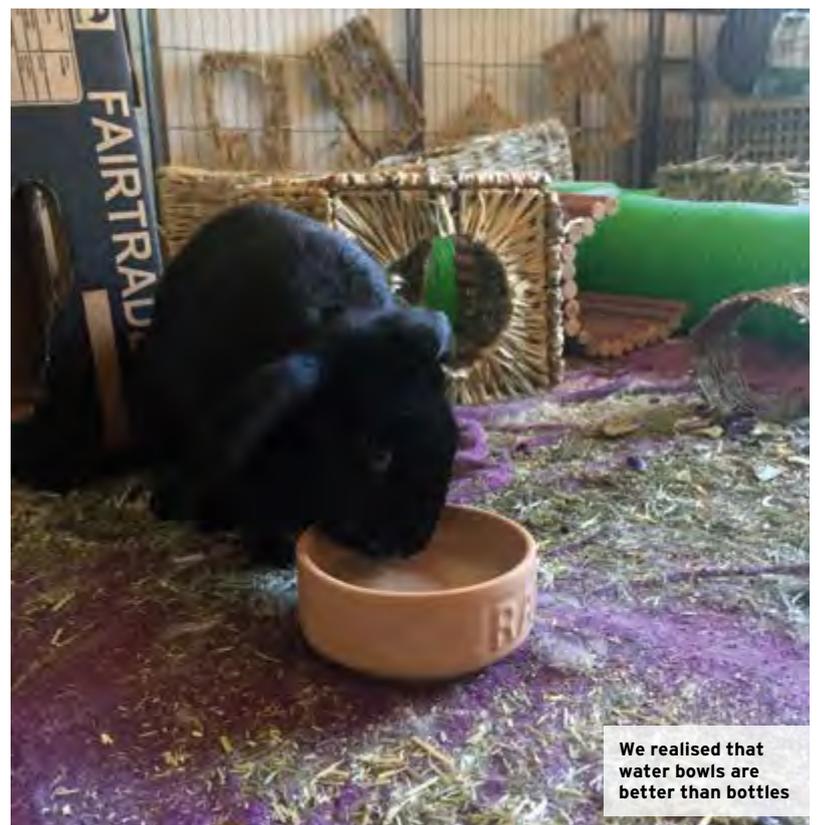
This seems so ridiculous now, and a rabbit rescue was very quick to point out the flaws! This style definitely doesn't provide room for "at least three full hops" and would probably be chewed to pieces. We'd found something we liked the look of, but hadn't considered it from a rabbit perspective.

Eventually, we went for a 150cm x 75cm cage and permanently attached puppy-panels to the cage, allowing the rabbits free-range over half our living room. The rabbits had space to hop around, and also space from each other when needed!

## Bored rabbits

After sorting their indoor space, it soon became clear that this was unlikely to be enough. As well as space, rabbits want places to hide, areas to dig and things to investigate.

We initially tried plastic tubes to emulate a burrow environment for the rabbits; this was another thing that looked good to humans but proved impractical! The plastic must've looked particularly chewable and we started finding bits of plastic in their pen, so they were quickly replaced with cardboard versions.



We realised that water bowls are better than bottles

We later discovered cardboard banana boxes, offered for free in supermarkets: they make great “boltholes” to hide and relax in, and our rabbits love chewing/ digging/destroying the boxes. Even cardboard can be dangerous if ingested though, so we only leave them with things they chew while under direct supervision.

Over time, the puppy-panels expanded and it was less our living room and more theirs! It was then that we discovered Runaround, outdoor enclosures that come with pipes to make interconnecting runs. The rabbits had space to explore outside, and we reclaimed some of our living room. We’ve since moved house, but we’ve never stopped using our Runaround pens; our rabbits now have an outbuilding and permanent outdoor access to their Runaround enclosures, giving them plenty of choice.

## Being scared of husbandry

Our first rabbits, as rescues, came to us with an uncertain background and disliked human interaction; they were happy to be with themselves but didn’t want to socialise with us. We adjusted to this and realised that rabbits, as prey animals, are happy to do rabbit things on their own, without humans interfering. As we wanted to avoid unnecessary handling of our rabbits, we kept it to a minimum. We really only “captured” them twice a year to go to the vet, and asked the vet to do things, as routine as nail clips.

When one of our rabbits became very sick (see “not getting insurance” later on), this forced us to have a much more hands-on approach, and we haven’t looked back since.

After we built-up confidence in handling, we realised that the easy things were less stressful for everyone involved. Rather than being put in a carrier, driven around, and handed to a stranger at the vet, they could have just minutes of negligible stress with their regular humans.

It meant checking for mucky bottoms, regular once-overs, and nail clippings became easy to do at home; the first few times were more stressful (for us!) than going to the vets, but the difference in stress levels for them really makes it worthwhile.

## Water bottles vs. water bowls

We’d had small animals like hamsters before, so we expected rabbits to have water bottles for drinking. We started out with water bottles and saw nothing concerning - it was quite cute seeing their tiny tongues and hearing their noisy slurps.

Later on, we read online that rabbits prefer water bowls as they’re a more natural way to drink. We did an experiment, leaving the water bottles in, but also provided water bowls. We never saw the water bottles used again.



As well as space, rabbits want places to hide, areas to dig and things to investigate



Our rabbits have lots of Runaround tunnels to safely explore in while outside

Not only did they clearly prefer the bowls, they’re also easier to clean and refill!

## Don’t trust the rabbit on the label

One way we initially showed our love to our rabbits was providing them with stick-style treats. However, these kinds of treats are good for neither weight nor teeth - a rabbit’s incisor teeth will grow 2-3mm each week, so it is very important they follow the right diet to keep their teeth and digestive system healthy.

When I look over old photos, I’m always shocked that we also used to give our rabbits dried sweetcorn cobs constantly. At some stage, we must have found out that sweetcorn really isn’t a rabbit-suitable food. For example, it can create digestion issues and blockages, which can then become GI stasis.

We eventually learned that just because a product has a rabbit on the packaging, it doesn’t mean that it is suitable for rabbits!

## Not getting insurance

We reached five years before our first “rabbit health incident”. Unfortunately, our rabbit had severe dental disease, and she needed to be transferred from Cornwall to Wiltshire.

Minerva’s first visit “up north” lasted for two weeks, and she needed two surgeries: three teeth extracted and a total ear canal ablation due to a middle ear infection. We hadn’t appreciated how much these procedures could cost and had never considered pet insurance.

We were later able to get Minerva insured under an “age amnesty” (she was already over 7), which then covered subsequent kidney disease. We now have six rabbits, and they’re all insured to avoid unexpected costs. The savings from Minerva’s insurance already eclipse the cost of the insurance for the others combined, so it was a worthy investment!

## Conclusion

We’ve been fortunate that we haven’t made mistakes that led to serious consequences, but have learned that it’s easy to fall into bad habits and continual scrutiny pays off.

Hopefully some of what we’ve learned will help you to either not feel guilty about your own mistakes, or to think about how you could better look after your own “burrow”!

# NURSING CARE AT HOME

## What to have in your rabbit's first aid kit

By Claire Speight, Registered Veterinary Nurse

Overly long nails may get caught and pulled out

The 'Nursing at Home' series aims to help guide owners on how to care for their rabbits at home, when faced with specific nursing care needs. This issue, we look at what you should have in your rabbit's first aid kit.

### Do I need a first aid kit?

A first aid kit is a wise idea to have at home, and having some specific equipment and materials can help you care for your rabbit, **but we need to be clear that a first aid kit is not in anyway, a replacement for seeking medical advice and treatment from your vet. It should be used to treat minor problems, or more serious ones whilst advice is being sought from a vet or under veterinary guidance. Never delay seeking veterinary treatment for your rabbit, any such delay can prove serious and in some circumstances fatal.**

### What should I have in the first aid kit?

A first aid kit could be vast, but essential items include:

- **Your vet's contact details and the details of the emergency vet:**

Many veterinary practices do not cover their own Out of Hours (OOH's) care. This means that in the event of an emergency you will have to travel to a different practice. You should have the details of not only your usual vet, but also their OOH cover to hand, and know how long it will take you to get there (day or night).

- **Taxi company telephone numbers:**

Rabbits don't get ill 9-5, Monday to Friday. There may be times when your rabbit is ill and you need to take them to the vets, but are unable to drive. Keep the details of companies who will happily transport rabbits, for this eventuality.

- **Pet carrier:**

Have a suitable and safe carrier to hand, so if you need to take your rabbit to the vets in an emergency, you don't need to spend time locating it.

- **Sterile dressings, bandages, padded material and gloves:**

It is unlikely that you will need to place a full bandage on your rabbit and extreme care needs to be taken when placing a bandage, as those that are too tight can cause constriction of the blood supply and tissues. However, it is a wise idea to have some materials in your first aid box, in case your rabbit has a wound etc. and your vet advises you to dress it. Your vet may be able to supply them for a charge.

- **Blunt-ended scissors:**

Have a good pair of blunt-ended scissors in the kit, in case you need a pair for cutting bandage material etc.

- **Nail clippers:**

A good pair of nail clippers is always useful to have. If your rabbit catches a nail, and it is not bleeding, and only the tip is affected, you can cut the affected piece off with the nail clippers to stop them from catching it any further.

- **Styptic pencils (silver nitrate):**

If you clip your own rabbit's nails and accidentally clip one too short, cutting into the quick, it will bleed. When applied to the nail, a styptic pencil will help to stop it from bleeding. Take care, as it will stain your skin, clothes and any surfaces it comes into contact with.

- **Cotton buds:**

Rabbits have scent glands situated on either side of their anus. These can get clogged up with a thick, semi-solid secretion. If you notice your rabbit's scent glands are full, you can very carefully use

a wet cotton bud to remove the excess secretion. Take care, as the skin is very delicate and can tear easily.



Have a silver nitrate pencil in case you catch the quick when clipping nails

**Bandage and dressing materials**



• **Blankets and towels:**

Have these to hand, to wrap your rabbit up in a 'bunny burrito' when you need to medicate them at home.

• **Tweezers:**

Unfortunately, flystrike can affect any rabbit. If you notice maggots on your rabbit or fly eggs, you MUST take your rabbit to a vet straight away and not delay. If you have someone who can travel with you, it may be

possible for them to remove some of the maggots with tweezers during the journey, but this will depend on the area affected, the length of the journey and if your rabbit will tolerate this. Never attempt to wash the maggots off.

• **Syringes:**

It is a good idea to have a selection of sterile syringes of varying sizes. These are needed when giving medications and syringe feeds. Your vet can supply these, but there is likely to be a charge.

• **Herbivore syringe-feed preparation:**

Have one or more preparations available, so if your vet advises to syringe-feed your rabbit, you have some available. Supreme Recovery, Oxbow Critical Care, Emerald or Burgess Dual Care are all suitable.

• **Heat-pad:**

Having one or two of these is useful to help warm a rabbit, whilst on the way to the vets. They must never be placed in direct contact with the rabbit or used in recumbent rabbits who cannot move away from the heat, and should only be warm, never hot, otherwise serious contact burns can occur.

**Medications**

Giving any medication to your rabbit, without first being examined by a rabbit savvy vet and prescribed by them, can be extremely dangerous. Many conditions in rabbits can present in similar ways, and giving incorrect treatment or delaying treatment can make the situation worse.

For this reason it is not recommended to have medications or items such as pineapple juice or Infacol in your first aid box. Delaying veterinary treatment for suspected GI stasis to try treatment at home can be the difference between life and death.

If your rabbit needs medication, your vet will prescribe it after clinically examining them.

This is one reason you must never delay in getting your rabbit to a vet if they are ill.



**Features will include:**

- **Signs of stress** - What signs do rabbits show to indicate they are stressed? Dr Laura Dixon explains.
- **Recycling rabbit litter** - Rabbiting On Veterinary Adviser, Guen Bradbury, looks at what rabbit litter is suitable for recycling.
- **Show jumping with rabbits** - Dr Emma Milne examines the ethical dilemma of rabbit show jumping.
- **Behind the scenes of a Rabbit Friendly Veterinary Practice** - Registered Veterinary Nurse, Rachel Sibbald, explains what happens at an RWF Rabbit Friendly vets.
- **Liver lobe torsion** - Nathalie Wissink-Argilaga, Specialist Veterinary Surgeon, looks at the condition, signs and treatment.

**And much more...Don't miss out!** Ensure that your subscription is up-to-date so you can receive the issue hot off the press in November 2021.

You must make sure that your address and details are up-to-date on our database, to ensure your copy of Rabbiting On is mailed out to the correct address. Unfortunately, we cannot send out replacement copies if you have failed to update your details.

- Features are subject to change without prior notice.

**Selective  
NATURALS**

**WIN 8 BOXES OF  
OUR NEW SELECTIVE  
NATURALS TREATS!**

**WIN!**

Introducing Orchard Loops and Berry Loops, our two delicious new additions to the Selective Naturals Treats range. Bursting with fruit and Timothy Hay for extra fibre, they're tasty, healthy, and the ideal treat for your small furry pets!

**QUESTION: What important ingredient have we added alongside our new fruit flavoured treats for extra fibre?**

**ANSWERS TO: experts@supremepetfoods.com**

**CLOSING DATE: 30/09/21**

**SUPREME** [supremepetfoods.com](http://supremepetfoods.com)

Many of the rabbits had horrendously overgrown nails

Photo: One Bun At A Time

# RESCUE POINT OF VIEW

## Mass rescue situations

By Hilary Lockett,  
Penny Spencer and Jenny Dorney,  
One Bun At A Time

**W**ow! So much has happened since we last featured in the Summer 2020 Rabbiting On.

The pandemic has been challenging for everyone and rescues across the UK have been inundated: people buying animals on a whim then realising they are much more work than anticipated; people losing their jobs and homes and subsequently their pets; breeders who couldn't sell their 'stock'; and hoarding situations made worse by the pandemic.

In this feature, we will tell you what takes place when we get a call-out to a mass rescue situation.

### Logistics

**Finding rescues/fosterers** - First, we contact the rescue(s) nearest to the location from which we need to remove rabbits, to ask if they have space, then go further afield if necessary. In mass hoarding cases, we must work fast to find spaces, as the rabbits need to be moved out as soon as possible. Fortunately, we have a good relationship with the rescues we work with, and they often find 'magic' spaces for us, especially when we are dealing with large hoarding cases. We also have a good pool of fosterers, so if rabbits cannot go to rescues immediately because they are full, we put them on the waiting list, and ask our vetted fosterers if they can look after them until a rescue space becomes free. In these circumstances, we try to arrange for vaccinations to be done. Finding rescue and foster spaces is time consuming, and we often have to juggle to make sure all rabbits are out and safe.

**Transporters** - Next, we ask our members if they can drive a certain part of the journey to get the rabbits or guinea pigs to safety; we sort out who they will be meeting (other transporters or direct to rescues),

and where they will be meeting, exchanging telephone numbers and car details. Also, we discuss whether they need their own pet carriers, or if the animals will be in pet carriers labelled for the journey. Quite often, arranging transport runs, especially when involving two or more volunteers, can take four hours or more. Sometimes there are two or three from the admin team working on different transport runs, if we have a lot of rabbits to move from one location to several different rescues/fosterers across England and Wales. We try to use plastic sturdy pet carriers or wire basket type carriers, just in case the vehicle they are travelling in has to stop suddenly or is in an accident.

Throughout the pandemic, we have been able to carry on our work with collecting and transporting animals in need, as this is deemed to be essential charity work. We have notices in our cars to say who we are and what we are doing. All collections/handovers have had to be Covid-safe, in accordance with the laws, and our volunteers are fully aware of what this entails, i.e., non-contact handovers, face coverings being worn, not going into homes unnecessarily, hand sanitizing etc.



Cramped hutches and dirty water bottles were evident

Photo: One Bun At A Time

**Back at 'base'** - Meanwhile, one of the admin team keeps track of progress, making sure everyone is okay, and it's all going to plan. The transporters check in when rabbits are collected, are handed from one to another, and when they arrive at the rescue/fosterer. It is a great relief when the animals successfully reach their destinations!

## Medical care

If any animals look ill/sick or are unable to be placed due to the large numbers involved, we take them back with us, as we have access to a quarantine facility whenever needed, and we arrange vet visits for assessment and treatment if necessary, before placing with sanctuaries/rescues. If they need lifelong care and would not be re-homeable, they stay at the sanctuaries.

Photo: One Bun At A Time



The living conditions of the rabbits before they were rescued

The charity covers the cost of any treatment required and vaccinations while waiting for rescue spaces, which is only possible with the donations received from our supporters, and our regular raffles, auctions etc.. We also contribute funds to the rescues who take in rabbits via us. Fortunately, we use rabbit savvy vets who give us charity-discounted rates. It's still very expensive, but very necessary, as we do everything possible to nurse a sick rabbit back to health.

We don't re-home rabbits ourselves - the rescues re-home after vaccinating, neutering and bonding using RWAf guidelines.

## An example of our involvement in a mass rescue

In June 2020, during the pandemic lockdown period, we were called to help a family whose mother had passed away, leaving multiple rabbits behind. So with PPE in place and our car notices, we sent three of our

Photo: S Wright



Finn knew love and kindness before we had to let him sadly go

Photo: One Bun At A Time



Dirty bottoms were a common finding

admin team off early, to travel to the site. We also arranged for other volunteer transporters to meet them there, so they could take the healthy-looking ones direct to their rescue spaces. What we found was awful: tiny, cramped cages in a very hot shed. We began by assessing each rabbit in turn, giving them a basic health check and addressing any immediate concerns, i.e., overgrown nails and dirty bottoms, of which most of these rabbits had. There were three litters of various ages, and distressingly, in one of those litters, was a decomposing baby writhing with maggots. In all, there were 35 rabbits.

## Three of the bunnies that were rescued

### • Celine

As we assessed one rabbit, we realised she needed a lot of care. We had the perfect fosterer in mind, as she is a vet; so 'Celine' made her way to Nicola, who found her to be very underweight, with grade 3 sore hocks, diarrhoea and dental spurs. On spaying, Nicola found she had a grossly abnormal uterus which was very likely precancerous. Celine was lucky enough to stay with Nicola and is now bonded to Prince, and has the best life as a houserabbit.

### • Tucker

Tucker is such a little sweetie - he was taken in by The Littlest Lives Rescue in Bristol. He has a very flat face, due to bad breeding, so is prone to respiratory infections, but he's a really happy bunny, living next to lots of rabbit friends, and Brittany is hoping he will bond into a group very soon.

### • Finn

Finn went to Suzi at Tiny Paws MCR; again, interbreeding, lack of hay, and a bad diet were probably the reasons he developed severe dental disease. Despite multiple dentals, x-rays, blood tests, anti-inflammatories, extra pain relief and antibiotics, he couldn't cope and continued to lose weight, so very sadly, the kindest thing for him was to let him go. While he was with Suzi, he enjoyed yummy forage, space to binky and was bonded with Olaf. So while he struggled, he was happy and knew what a proper bunny life was like.

## Further information

The neglect we have seen is heart-breaking and, unfortunately, these cases are becoming more common. We do what we can, with the help of the great rescues and volunteers who work with us.

Please pop on over to our Facebook page, where there is further information on the work we do: <https://www.facebook.com/onebunatatime>.

Supportive treatment includes hospitalisation, syringe feeding, and fluid therapy

Photo: Anderson Vets

# COCCIDIOSIS IN RABBITS

By Brigitte Lord, Veterinary Surgeon

**C**occidiosis is a condition caused by a tiny parasite called a coccidian. This coccidian parasite can affect the digestive tract of the rabbit. Signs that the rabbit is unwell due to a digestive problem include a decreased appetite or anorexia, weight loss, changes in defecation, and depression. Diet-related disease and stress-related disease, resulting in immunosuppression and gut stasis predominate. However, infectious and parasitic disease can also be the cause of disease of the digestive tract in a rabbit.

## What is coccidiosis?

The coccidian parasite is small enough to live inside the cells lining the intestines or inside liver cells. Infection with the coccidian parasite is called coccidiosis. The coccidian parasite belongs to the genus *Eimeria* and is widespread around the world. In the rabbit the liver coccidium, *Eimeria stiedai*, causes serious damage to the liver. The other *Eimeria* species that can infect rabbits only affect the intestines. Different species of *Eimeria* affect different niches of the intestines. The most recently identified coccidian in rabbits was reported in 2008, *Eimeria exigua*. The *E. exigua* parasite invades the first part of the small intestines leading from the stomach, the duodenum, and then migrates further down the small intestines through the jejunum to the last part of the small intestine, the ileum. Here the parasite moves from the cells, deeper in the intestinal



Coccidia oocysts are very resistant to the environment and can survive years outside the host

Photo: C Maclean

wall to the surface tops of the villi. Villi are finger-like projections on the intestinal cells at the surface of the wall of the intestines and are needed to absorb water and nutrients from the ingested food.

### What happens in coccidiosis?

Many different species of *Eimeria* coccidian parasites have been identified in the rabbit. *Eimeria stiedai* is the liver coccidium. *Eimeria intestinalis*, *E.perforans*, *E.media* and *E.magna* have been commonly reported in domestic rabbits. *E.perforans* has also been found to be the most common in wild rabbits. Transmission is by ingestion of sporulated oocysts. Oocysts are the thick-walled stage of the life cycle of coccidian parasites. This stage is very hardy and allows the parasite to be passed in the faeces into the environment, where it can survive for many months. Temperature, oxygen and moisture activate the oocysts and it becomes infectious; this stage is named the sporulated oocysts. It is generally accepted that caecotrophy (ingestion of the soft caecotrophs from the anus to re-digest the food and gain vital vitamins and energy), is not involved in the transmission of infectious oocysts.

This migration of the coccidian parasite from the point of infection and entry of the parasite into the intestinal wall, and then travelling through the gut wall to the last part of the small intestines, can happen within a few hours. During the journey, the parasite rapidly changes in shape and reproduces during its life cycle. Most of the intestinal coccidian parasites gain entry to the digestive tract by being eaten, and then break into the duodenal wall, where they then travel to their preferred niche area of the digestive tract or liver. Migration outside of the digestive tract, "extra-intestinal" migration, is also seen. Migration through the intestines or liver causes damage to the tissues. The coccidian parasite oocysts are then passed out in the droppings. As the coccidian parasite becomes active in a moist environment, overcrowded and poor hygienic conditions lead to a very high amount of sporulated oocysts and subsequent disease in the rabbits.

### Signs of disease

Intestinal coccidiosis is most often a subclinical disease in adult healthy rabbits. In rabbits under 6 months of age, more serious disease may be seen.

Predisposing factors to disease from coccidiosis include:

- Infection with other diseases at the same time as infection with *Eimeria*
- Run down or a suppressed immune system due to other disease, stress, poor diet or steroid medication
- Having no natural immunity to low levels of the coccidian parasite



A faecal sample examined under a microscope is needed to identify the presence of oocysts

Photo: C Norris

- Large numbers of infectious sporulated oocysts, often found in overcrowded and poor hygienic conditions

Signs of disease that may be seen in adult rabbits include weight loss, mild to severe intermittent or continuous bloody diarrhoea, dehydration and occasionally intussusceptions (where the intestine wall telescopes into each other). Rabbits may die due to secondary bacterial gastroenteritis and dehydration. Disease tends to be more severe in baby rabbits, especially around weaning time when their digestive tract is changing from digesting milk to herbivore with fermentation in the large intestine. Young rabbits affected by liver coccidiosis tend to die of liver failure and jaundice (yellowing) of the skin may be seen. As it is contagious, all of the rabbits may become ill at the same time. However if some of the rabbits have been exposed to low amounts of the coccidian parasite, they may have developed sufficient natural immunity and may not show any signs of disease.

### Diagnosis

Collecting droppings for three to five days (pooled faecal sample) and having it sent off by your vet may detect this parasite that is intermittently shed. Small numbers of oocysts does not necessarily mean they are the cause of disease. However, if there are signs of disease as described above, and the coccidian eggs are found in the faeces, this would be very suggestive that coccidiosis is most likely the problem and treatment would be justified. Repeating a pooled faecal sample after treatment, to confirm the rabbit has cleared the current infection, would be prudent. A definitive diagnosis is based on taking a biopsy of the liver or intestines under general anaesthetic and sending it to the laboratory for microscopic examination.

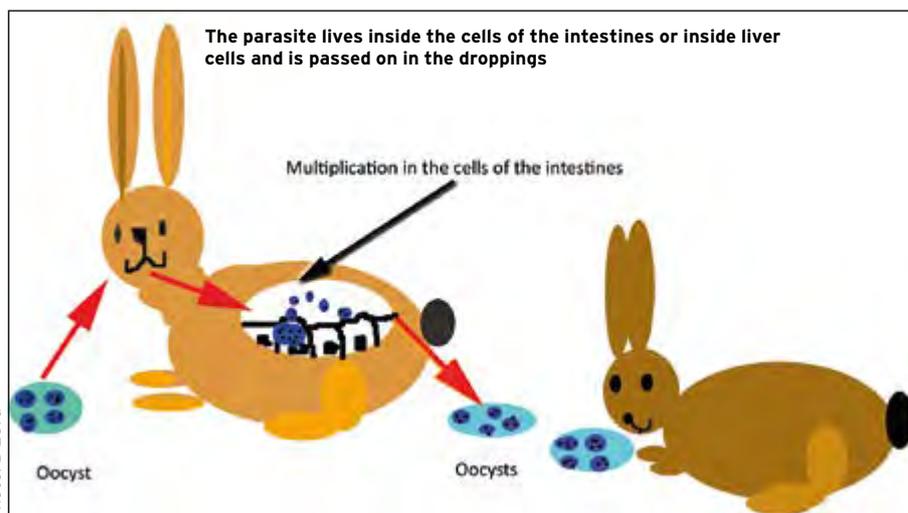


Photo: B Lord

Diarrhoea can be a sign of coccidiosis



## Treatment

Supportive treatment including hospitalisation, syringe feeding, and fluid therapy to treat dehydration are needed for moderate to severe cases of disease. Mild cases of weight-loss and intermittent diarrhoea maybe managed at home or may resolve on its own and lead to immunity. Rabbit coccidiosis is species specific and therefore rabbits can't get guinea pig or chicken coccidiosis. However, mixed grazing of rabbits and chickens is not recommended, as rabbits can become ill from some of the bacteria that may be shed in chicken faeces. Specific drugs to kill the coccidian parasite include sulpha drugs (trimethoprim-sulfamethoxazole, sulphadimethoxine) and anti-coccidial drugs (toltrazuril, amprolium). The outcome can be good in mild cases and may result in lifelong immunity.

## Prevention

The rabbits' environment must be kept safe, clean, dry and hygienic and a toilet area should be provided. This can be a corner of the enclosure or a litter tray filled with wood or paper-based non-clumping cat litter, shredded paper, or dust-free, non-toxic, wood shavings, straw or hay. This should be cleaned on a daily basis. Use heavy bowls for water to reduce the rabbits tipping it up and check leaking water bottles if used. Water bowls are preferable, as they will allow more natural drinking. Daily, remove any uneaten fresh foods and thoroughly clean water and food containers, and remove any wet bedding around these areas. The entire enclosure should be washed with washing up liquid and water first, and then disinfected at least once a week, before renewing all bedding. Oocysts are highly resistant to environmental

conditions and to commonly used disinfectants, including Virkon and Anigene, therefore washing to physically remove them is the most important step. After washing, ideally a non-toxic, rabbit-friendly disinfectant is used, and ensure the accommodation is completely dry before the rabbits are returned to it. Temporary accommodation, away from the disinfection site, is required for the rabbits during the cleaning and disinfection process, as most disinfectants are toxic when in use, but not after use. Some disinfectants which are effective against coccidia oocyst or inhibit sporulation include Ethanol 70%, Interkokask RTU or acetic acid 99.95% used at a 1:2 dilution for 30 minutes. Unfortunately, vinegar typically only contains 5-8% acetic acid by volume. The rabbits can be rehoused once their accommodation is dry. Please see <https://rabbitwelfare.co.uk/rabbit-care-advice/rabbit-housing/disinfectants/> for more information on the use of disinfectants. As cleaning can be stressful for rabbits, it is recommended that after cleaning, a small amount of used, but unsoiled bedding material be returned to the enclosure. This will smell familiar to the rabbits and can help reduce the stress that has been caused by the cleaning process. Exercise areas should also be regularly cleaned. The run should be regularly moved onto a new area and droppings collected and composted.

Most rabbits kept in a clean, stress-free environment show no signs of disease after infection with coccidian and may develop life-long immunity. Feeding a healthy diet of mainly hay or grass is the best way to protect the rabbit's digestive system from serious disease.



Use heavy bowls for water to reduce the rabbits tipping it up

# RABBIT ROUNDUP

Photo: N Fishwick



## Fundraising

**We continue to work on all our projects, and as ever we are in need of funds**

We are very well aware that things are tight for everybody, especially since the pandemic began.

We continue to work on all our projects, and as ever we are in need of funds. We have a lot of ways that you can fundraise for us, at little or absolutely no cost to you. Check out our Fundraising page <https://rwaf.org.uk/funds> where we explain how everything works.

Although we don't receive huge amounts from these sources, as the saying goes, every little helps.

As well as all the shopping options, don't forget that when you want to give flowers, Arena flowers not only does fantastic displays, but they also plant a tree every time you use our link to make an order, and donate to the Rabbit Welfare Fund as well - we win, the environment wins and your loved one wins too!

We were all set to launch our wedding favours when Covid hit and a couple of members had asked about them - we are still primed, so now that things are easing, if you have a wedding coming up, our huge congratulations, and please consider Rabbit Welfare Fund Wedding Favours to give to your guests on your big day.

All the details of both the flowers and favours are on our fundraising page.

## Cheque payments

When we bank cheques, we are charged 90p by the bank for each one. Sadly, we cannot absorb this cost ourselves, so if you pay by cheque (to renew your membership, pay for items from the shop, buy back issues of Rabbiting On etc.), please ensure that you add 90p extra onto your cheque to cover this cost. Thank you.




## galens garden

Natural Products for Rabbits

- Whole & Chopped Dried Herbs
- Tinctures & Syrups
- Creams & Gels
- Edible Dried Flowers
- Dried Vegetables
- Cereal Grasses
- Healthy Cookie Mixes
- Grassy Logs
- Grass, Forage & Wild Plant Seed
- ASAP Powder
- Nutripowder
- Chanca Plus Powder

[www.galensgarden.co.uk](http://www.galensgarden.co.uk)

Blackberry plants lose their leaves in autumn, so harvest leaves in late summer

All photos: Yay Images.com

# PREPARING FOR WINTER

By Belinda Francis of Galen's Garden

**L**ate summer is traditionally associated with great abundance. It is the time for cutting hay and harvesting herbs, wild plants, tree forage, vegetables and flowers for drying as winter rabbit food.

Between then and early autumn is the ideal time to tidy up and prepare for the following year, harvesting and sowing seed, as well as drying those plants which will naturally die back in winter.

## What to harvest and when

As a rule of thumb, annual plants which set seed and then die, should be harvested by cutting the whole plant when in flower, leaving a reasonable percentage to set seed for the following year.

With perennial plants, which grow back from the root the following year, as well as from seed, you can pick flowers and leaves, then stems and even the roots in older plants.

In all cases, leave enough plants to self-seed ready for the following year and to provide nectar for the bees.

## Grasses

It is easy to make your own hay from patches of long grass that are free from pesticides or animal waste. Check the weather for a guaranteed dry and sunny spell lasting several days. Hand pick the grass, spread it out on the ground or on top of a rabbit run, turn on a regular basis until dry. Grass must NEVER be cut with a mower as this will ferment and is dangerous to feed.

This is also a good way to dry whole herbs and flowers, as it reduces the damp spot that can occur when drying it in tied bunches.

If you have a warm and dry spare room, you can dry this type of hay and forage on the floor. Cover the drying area with a sheet of plastic, bed sheet/duvet cover or cardboard so it is easy to retain the small bits of leaf that will inevitably break off in the drying process.



Yarrow grows back from the root and spreads underground creating new plants

## Flowers and leaves

The leaves and stalks will die back anyway in the winter, so you may as well cut and dry as much as you can at the end of their growing season.

With some of the flowering plants which rabbits enjoy eating, for example calendula, dandelions, echinacea, mallow and marshmallow, picking the flowers makes the plant grow more flowers. In mid to late summer, you can harvest flowers and some leaves daily, leaving only those you need for seed, plus some for the bees.

Mallow and marshmallow leaves will start to turn, once the plants have stopped putting out flowers and the flowers that are there set seed. Continue to pick only the healthiest, greenest leaves and harvest seed when it is ripe.

With cornflower and yarrow for example, there will be no regrowth. These are best harvested by cutting the whole plant at the base when the flowers are at their best. Although yarrow will grow back from the root and spread underground to create new plants, it needs top growth to nourish the roots.

Sunflowers and cornflowers will only grow from seed. Sunflower seeds are fattening and the shells can get stuck on a rabbit's teeth, so either dry just the petals, leaving the seeds for you or the birds, or dry the head while it is still in flower or just turning green, before the seeds start to form.

Golden Rod will grow a lot of leaves when the tops are picked, so you may get additional leaf forage but no more flowers.

Harvest rose flowers for their petals just before they turn from full bloom to 'going over', as they only need to be deadheaded anyway to encourage more flower growth. The leaves are also relished by rabbits, so pick and dry any surplus just before they would naturally start to fall.

## Seeds

When the plant releases some of its seed, you are safe to harvest the remaining seed. You will then have seedlings from the fallen seeds, which you can transplant when they are a decent size the following spring. Make sure seeds are completely dry before storing. Although wild flower seed is best sown in late spring/early autumn, you will probably want to save some for sowing in the spring as well.

## Berry plants

Raspberry and blackberry plants will lose their leaves in the autumn, so harvest leaves in late summer after they finish fruiting. Leave some of the canes so you can see when they fall naturally, as the time to prune them is once they've lost their leaves.

Harvest strawberry leaves as soon as all the fruit has ripened. The plant will grow back the following year so, as with yarrow, leave enough stem and leaf to nourish the root and provide protection for the plant in cold weather.

Rosehips can be split, the seeds and irritating hairs removed, and the hip shell halves dried. Rosehips are a good source of vitamin C, fibre, calcium and potassium.



Wild flowers and meadow grasses for grazing and hay making should be sown in August



Cornflowers will only grow from seed

## Stems

Once the leaves have fallen, you can harvest the stalks of mallow, marshmallow, sunchoke, sunflower and echinacea, as they will die back anyway. Dry thoroughly, splitting stems lengthways before drying, as moisture can be retained in hollow stems.

## Roots

Edible roots such as chicory, dandelion, echinacea, inula/elecampane, mallow and marshmallow should be harvested only once the plants are two years old or older. The time to harvest the roots is in the autumn, as soon as the leaves and stems have died back.

## Twigs and branches

The leaves on apple and pear trees start to turn yellow as soon as the fruit matures. Harvesting the leaves for drying as soon as you've harvested the fruit is the perfect time. The leaves have done their job and are destined to turn and fall anyway.

Apple and pear trees are pruned from November through to the following March. With a little bit of local research you may be able to find neighbours or orchards which will let you relieve them of apple and pear tree prunings.

## Sowing

Wild flowers and meadow grasses for grazing and hay making should be sown in August.

It's a good idea to sow some of the harvested seeds in other areas of the garden, where you would like them to grow or in pots and leaving them in the garden to overwinter. Make sure you label them.

Do the same with any new wild forage you want to grow, because many native wild plants need a cold period in order to germinate successfully when the weather warms up.

Timothy is a slow-growing grass that will not compete with wild plants, making it ideal for establishing a flower meadow for your rabbits. Sow Timothy grass seed as early as you can in the summer, to make sure it has a chance to establish. The seeds are small and only need to be sown shallowly, at a depth of 1cm. Make sure the ground is flat before sowing, by raking and rolling or standing a plank of wood to flatten small areas.

## Useful link

<http://www.magnificentmeadows.org.uk/>

Cleaning out of litter trays, should be carried out daily

Photo: C Speight

# DISINFECTANTS

By Rachel Sibbald, Registered Veterinary Nurse

**S**pot cleaning of your rabbit's environment, such as cleaning out of litter trays, should be carried out daily and more thorough cleaning at least once or twice per week. Unfortunately, there may be certain scenarios where deep cleaning with specific disinfectants may be required, such as in positive cases of Rabbit Viral Haemorrhagic Disease (RVHD 1+2). This article highlights what disinfectants are appropriate for common infectious diseases found in pet rabbits, and what cleaning solutions should be avoided.

## What is disinfection?

"Disinfection is a process by which pathogenic microorganisms are destroyed or removed from inanimate objects" (Monsey and Devaney, 2011). Disinfection is achieved not only through the use of chemicals but also through physical cleaning. Scrubbing and cleaning of grossly soiled objects/environments is extremely important as discharges, such as blood and urine, are breeding grounds for a whole host of pathogens, and the efficacy of chemical disinfectants are greatly reduced when used on organic matter. Only once the organic material has been removed, will disinfectants be able to exert the maximum effect.

## The cleaning process

The following steps should be followed when disinfecting your rabbit's environment if there is concern about infectious disease or when performing a 'deep clean' (adapted from Monsey and Devaney, 2011).

- 1 Remove your rabbit from the environment and put in a secure, familiar and easily cleaned environment. This may cause stress to some rabbits, so the use of Pet Remedy can be employed along with limiting the time they are away from their usual living quarters.
- 2 Remove all hay/straw/bedding and dispose of these. Wash fabric bedding at a minimum temperature of 60C with non-biological liquid/powder/tablets. Remove bowls and water bottles/toys. If a new rabbit will be entering the environment, bowls should not be shared. If these are being used by the same rabbit, they can be soaked in hot water and detergent (e.g. Fairy liquid) and cleaned thoroughly, then rinsed thoroughly or put through the dishwasher.

- 3 Remove organic material (i.e. remove all droppings, physically scrub urine etc.).
- 4 Scrub all non-porous/organic surfaces with soapy water. Rabbits housed on grass outside may be at more risk of re-infection of certain diseases, such as *E. cuniculi*, as this is impossible to clean. Ideally the run/enclosure should be moved onto new pasture if possible.
- 5 Rinse with hot water.
- 6 Apply disinfectant at the correct dilution rate as specified by the manufacturer, and leave for the correct contact time (should be specified on the disinfectant bottle).
- 7 Rinse thoroughly.
8. Physically dry with a clean towel or paper towels.
- 9 Leave to air dry.
- 10 Replace with new bedding, clean bowls, food etc.

## Wearing PPE

Whilst performing a deep clean of the environment, it is also important to protect ourselves and try to prevent further spread of disease. Our clothes and shoes can act as fomites, which serve as disease transport. Personal protective equipment (PPE) is advised whilst performing cleaning of your rabbit's environment where infectious disease is suspected. Gloves, apron, face mask (to protect against disinfectant



A selection of PPE

Photo: R Sibbald

aerosols) and shoe covers are recommended. These should all be discarded before interacting with your/another rabbit. Remember whilst we vaccinate and clean to protect our own rabbits, wild rabbits are also susceptible to the same diseases and therefore responsibility lies with us, where our rabbits are potentially infectious, to help prevent disease spread to the wild population. Double fencing around outdoor enclosures may be necessary, where large numbers of wild rabbits co-inhabit an area.

## What choices of disinfectant do we have?

**Bleach (sodium hypochlorite)** - Arguably the most common household cleaner. Bleach is cheap and usually very effective against a range of organisms (apart from coccidiosis, see below). However, it can be harmful if exposed to the skin or eyes and is extremely dangerous if ingested. Bleach at 0.1-10% concentrations has been shown to be effective against *Encephalitozoon Cuniculi*, with a contact time of 10 minutes (Jordan, 2006). However, extreme care must be taken if using bleach to clean your rabbits' environment and the enclosure must be rinsed thoroughly after use and air dried for at least 24 hours before your rabbits are returned. Avoid using bleach to clean food and water bowls.

**Surface cleaners (wipes and sprays)** - Many kitchen and bathroom cleaners claim efficacy of killing up to 99.9% of bacteria. Unfortunately, many diseases which affect our pet rabbits are not in fact bacteria and will render these products useless. For example, myxomatosis and RVHD1+2 are viruses and *Encephalitozoon Cuniculi* and *Coccidiosis* are protozoan parasites. These may be effective against certain bacteria such as *Pasteurella Multocida*. However, further work is required to establish this and therefore they cannot be recommended.

**Anigene (Benzalkonium chloride)** - This is a high-level disinfectant that has bactericidal, fungicidal, mycobactericidal and virucidal activity and is also effective against spores. Therefore, this disinfectant, when used in the correct way, is an excellent choice for most infectious diseases in rabbits, apart from coccidiosis (see section below). When used correctly, this disinfectant should be effective against RVHD1 and 2, myxomatosis, *E. Cuniculi* and *Pasteurella Multocida*. For general disinfection, a dilution of 1:100 can be used. In high risk or dirty conditions, a dilution rate of 1:50 is recommended. Pre-diluted preparations are available as sprays, although these are not as economical as concentrates. Anigene is harmful to the skin and eyes and as with bleach is dangerous if ingested, therefore your rabbits should only be returned to the environment once it has been thoroughly rinsed and air dried.

**F10 Veterinary Disinfectant (Quaternary Ammonium Compound and biguanide 5.8%)** - This product has broad spectrum activity against bacteria, fungi, spores and viruses. The appeal of this product is it has very low toxicity and low irritation characteristics, which make its use ideal for animal enclosures. Bactericidal contact times are generally 5-10 minutes and high-level disinfection can be achieved (including fungal spores) at 1:250 (4mls per litre of water).

**Steam cleaning** - Steam sterilisation is non-toxic, inexpensive and allows for the rabbits to return to the environment quickly. However, specific temperatures must be obtained to ensure microbicidal activity. The two most common steam-sterilising temperatures are 121°C and 132°C. These temperatures (and other high temperatures) must be maintained for a minimal time to kill micro-organisms. In a study evaluating steam cleaning for disinfection in a veterinary hospital, significant reductions in micro-organisms were detected on kennel floors after steam cleaning. However, bacterial counts were not significantly reduced on other test surfaces that had adequate pre-treatment counts for quantification (Wood et al., 2014). Based on this, steam cleaning may prove to be an effective adjunct to disinfection but should not be relied upon solely.

## Coccidiosis

Coccidia are one of the most frequently encountered enteric infections in rabbits.

Coccidia oocysts are very resistant to the



Photo: R Sibbald

environment and can survive several years outside the host (Harcourt-Brown, 2014). Further to this, they are not killed by commonly used disinfectants and can resist very high temperatures. Oocysts are, however, susceptible to a 10% solution of ammonia. Ammonia at a 10% solution should be left for 45 minutes contact time. Rabbits must NEVER be in the environment when using ammonia solution and ideally this should be done outside. Alternatively, boiling water may be effective but would have to be applied for a sustained period, which again may not be practical. Wild rabbits can be a source of contamination on pasture/plants and therefore movable runs should be moved into areas where they cannot reach.

The life cycle of *Eimeria* is self-limiting and ends spontaneously within a few weeks, unless reinfection occurs. Rabbits with confirmed infection should be isolated and treated individually whenever possible.

If you are ever unsure about the infectious status of your rabbit or what disinfectant is suitable, please contact your rabbit-savvy vet or vet nurse.

## References

Harcourt-Brown, F. (2014). Digestive system disease. In: Meredith, A and Lord, B *BSAVA Manual of Rabbit medicine*. Gloucester: British Small Animal Veterinary Association. 182.

Jordan, C. (2006). Activity of bleach, ethanol and two commercial disinfectants against spores of *Encephalitozoon cuniculi*. *Veterinary parasitology*. 136 (3-4), 343-346.

Monsey, L and Devaney, J. (2011). Maintaining animal accommodation. In: Cooper, B, Mullineaux, E and Turner, L *BSAVA Textbook of Veterinary Nursing*. 5th ed. Gloucester: British Small Animal Veterinary Association. 297.

Wood, L, Tanner, B, Higgins, L, Dennis, J, and Luempert, L (2014) Effectiveness of a steam cleaning unit for disinfection in a veterinary hospital, *American Journal of Veterinary Research*, Vol. 75, No. 12 , Pages 1083-1088.



Photo: R Sibbald

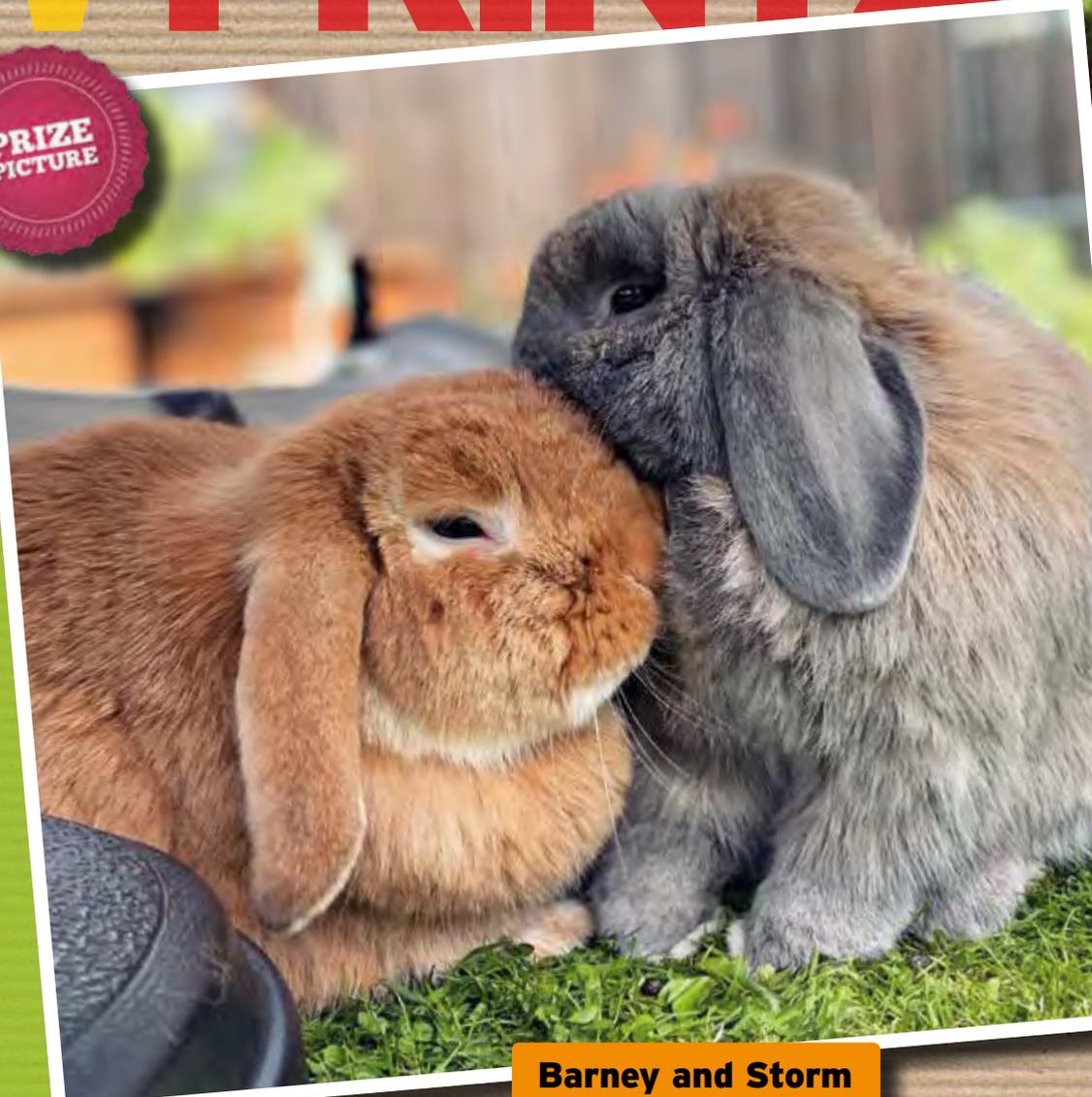
# PAW PRINTS



We'd love you to contribute to Rabbiting On, and how better than with photos of your own rabbits? We know there are some gorgeous bunnies out there, and we'd all love to see them. Please share your favourite photos with us, and we'll choose the best shots for our regular Paw Prints feature.

We also choose photos for Star Bunny (on the Contents page) and our It's My Bunny! Competition from your Paw Prints pictures - and there are prizes to win!

Pictures submitted to Paw Prints may also be chosen to illustrate features in Rabbiting On.



**Barney and Storm**

LUCY KAYE



**Binky and Flame**

ROBIN WELLS



**Miranda and Cliff**

KELLY LANGFORD

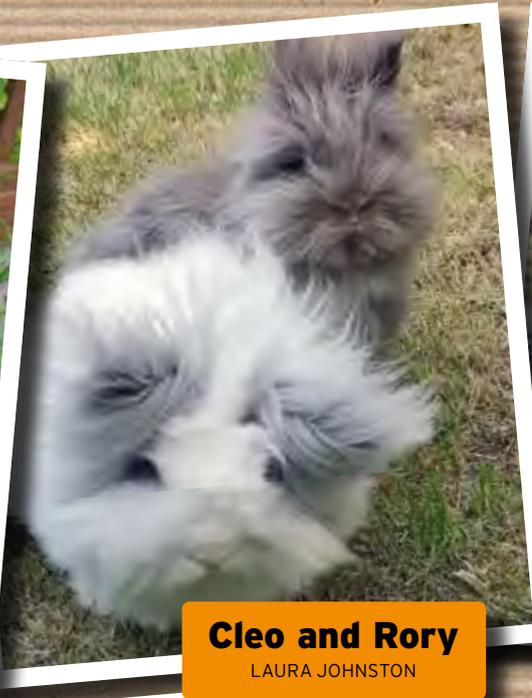


**Ronnie**

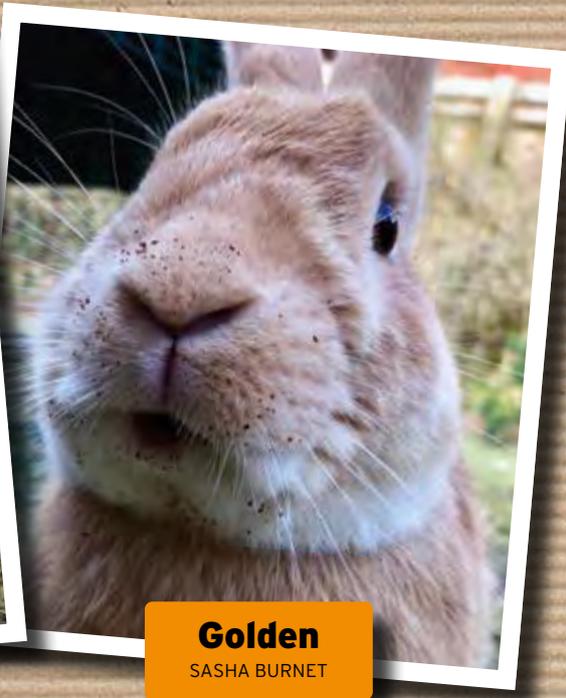
KALLIE BAUCKHAM



**Ariel**  
CLAIRE GREGORY



**Cleo and Rory**  
LAURA JOHNSTON



**Golden**  
SASHA BURNET



**Boo and Basil**  
IMOGEN BLAKELEY



**Fizz and Chi**  
SUSAN POLLARD



**Willow and Charlie**  
WENDY JANES

**RULES FOR PHOTO SUBMISSIONS**

We love to see your photos of your rabbits, and we're delighted to be able to feature them in Paw Prints, as well as It's My Bunny, and the Star bunny on the Contents page. Remember that one picture on Paw Prints wins a mystery prize. And we also choose our cover pictures from the photos you submit, so your bunny could even become a cover star! We also use photos in advice leaflets, on our website and on our Pinterest boards, so your rabbits could become Internet stars too! If you aren't familiar with Pinterest, you'll find our boards here, courtesy of one of our wonderful volunteers, Jo Hinde <http://www.pinterest.com/rwaf/> But unfortunately some readers send us photos that we are unable to use, because they're not high enough resolution for printing in the magazine, or the rabbit's or owner's name aren't supplied.

Please email your photos to: [rwafphotos@gmail.com](mailto:rwafphotos@gmail.com)

Also, it's vital that your camera is set up properly before you take your photos, as it isn't possible to increase the resolution afterwards. We need you to set up your camera to the highest image quality. Any photos you submit should be about 1-1.5Mb (or more) if it's a jpeg or jpg file, and around 2.5 - 3Mb (or more) if it's a tiff (please compress tiff files before sending)

If you have difficulties, please contact [hq@rabbitwelfare.co.uk](mailto:hq@rabbitwelfare.co.uk) or the helpline on **0191 933 9000**, and we'll do what we can to help.

You can also send print photos or photo CDs to: **Rabbiting On Photos, RWAf, Enigma House, Culmhead Business Park, Taunton, Somerset, TA3 7DY.**

*We're looking forward to seeing lots more lovely bunnies!*

# CAN WE HELP?

## Contacting the RWF

- Members can ring the **RWAF telephone helpline: 0191 933 9000**, for general rabbit advice, help with locating a rabbit friendly vet, finding the nearest rescue centre and bereavement support.
- Log on to the website at [www.rabbitwelfare.co.uk](http://www.rabbitwelfare.co.uk) for advice and articles on many rabbit related topics.
- To contact the RWF by post please write to:  
**RWAF, Enigma House, Culmhead Business Park, Taunton, Somerset TA3 7DY**  
Please include an SAE if you would like a reply.
- To contact the RWF by e-mail, please send e-mails to:  
[info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk)

## RWAF departments

### BOARDING YOUR RABBIT

If you are looking for someone to board your rabbit while you are away from home, or offer this service yourself, please call the RWAF telephone helpline 0191 933 9000 or email [info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk)

### ON THE HOP

The quickest way to process bulk orders of On The Hop may be found online at [shop.rabbitwelfare.co.uk](http://shop.rabbitwelfare.co.uk) in the 'Books and Leaflets' category. Alternatively, call our helpline 0191 933 9000 or email [info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk)

### FIRST ALERT SERVICE

We run a First Alert e-mail service which notifies subscribers of Myxomatosis and RVHD outbreaks as we are informed of them, as well as other information we think you will be interested in, such as new vaccine information.

In accordance with The General Data Protection Rules we want you to be aware that you can sign up to our First Alert service by e-mailing us at [info@rabbitwelfare.co.uk](mailto:info@rabbitwelfare.co.uk). If you are already on the First Alert service you can leave at any time by e-mailing us at the same address and asking to be removed from the list.

## Rabbiting On

Editor: **Claire Speight**

Telephone: **0191 933 9000**

e-mail: [claire@rabbitwelfare.co.uk](mailto:claire@rabbitwelfare.co.uk)

Editorial Consultant and Copy Editor: **Deborah Staggs**

Designer: **Ian Irving**

Advertising Sales: **Claire Speight**

e-mail: [claire@rabbitwelfare.co.uk](mailto:claire@rabbitwelfare.co.uk)

Printed by: **Micropress Printers Ltd**

Please send editorial and photographs for possible inclusion in Rabbiting On to: **The Editor, Rabbiting On, c/o Enigma House, Culmhead Business Park, Taunton, Somerset TA3 7DY**

(Photos can be e-mailed to [rwafphotos@gmail.com](mailto:rwafphotos@gmail.com). Please do not e-mail photos to the Editorial e-mail address.)

Rabbiting On Subscription: Your payment covers 4 issues of Rabbiting On magazine. If you have paid by Paypal it will most likely have been via the subscription service. This means Paypal sends RWAF a renewal payment on the anniversary of the membership, unless you cancel the pre approved payment, which you can do at any time. RWAF is not able to cancel this for you. This will not cancel your subscription to the 4 issues you have already paid for it will simply cancel your automatic renewal. You can renew by cheque (if paying by cheque please add 90p onto each cheque to cover our banking administration costs), or card if you prefer. If you would like to set up a Standing Order as an alternative way of renewing please contact us.

The views expressed in Rabbiting On are not necessarily those of the Editor or the RWAF. Whilst every care is taken Rabbiting On and the RWAF cannot accept responsibility for the loss or damage of material sent for possible publication.

Any advertisements accepted in Rabbiting On are not endorsements of the products or services offered. We try not to accept adverts for products or services that we think are not in the interest of pet rabbits, but we cannot guarantee that this will always be the case. Readers should satisfy themselves that the products or services advertised are suitable for their rabbits.

Copyright © 2021 The Rabbit Welfare Association & Fund.

No part of this magazine may be reproduced in any form, copied or stored electronically without prior permission in writing from the publisher.

[www.rabbitwelfare.co.uk](http://www.rabbitwelfare.co.uk)

## JOIN THE RABBIT WELFARE ASSOCIATION AND FUND

If you have enjoyed reading Rabbiting On, and are not already a member of the Rabbit Welfare Association & Fund, why not join now to be sure of receiving the next issue, packed full of interesting and informative features?

Cut out or photocopy the form below and send it to: **RWAF, Enigma House, Culmhead Business Park, Taunton, Somerset TA3 7DY** or for instant membership simply phone the RWAF Helpline: 0191 933 9000. Or you can join or renew online at [shop.rabbitwelfare.co.uk](http://shop.rabbitwelfare.co.uk) in the 'Memberships' category.

As a member of the RWAF you will receive 4 copies of Rabbiting On each year along with the RWAF Members Handbook, On The Hop (a complete guide to rabbit care), an RWAF car sticker, and a 'Home Alone' card. You will also have access to the RWAF's team of expert advisers.

Surname: .....

Initial/First name: .....

Address: .....

County: ..... Postcode: .....

E-mail: .....

Tel: .....

I would like to apply for membership of the Rabbit Welfare Association & Fund and agree to be bound by the Rules and Conditions of the association.

I understand that my membership details will be held on computer.

Signed: ..... Date: .....

Annual subscription: (please tick one):

Individual £24.00  Family £30.00

Overseas Europe £40.00  Overseas International £44.00

Veterinary practice (includes 75 copies of On The Hop): £55.00

International Veterinary Membership (includes 75 copies of On The Hop): £100.00

I would like to make a donation to the Rabbit Welfare Fund charity

(Please tick one box) £3  £5  £8  £10

Other sum: ..... (Please indicate amount)

I would like to make a donation to become an official

'A Hutch is Not Enough' supporter.

..... (Please indicate amount)

I enclose a cheque (if paying by cheque please add 90p onto each cheque

to cover our banking administration costs), made payable to the Rabbit

Welfare Association & Fund (or fill in your credit/debit card details below):

Please charge my:

Mastercard  Visa  Delta  Switch  Solo  JCB  Maestro

Card No: .....

CV2 (Required): ..... Issue no: (Switch) .....

Valid from: ..... Expiry date: .....

Cardholder name: .....

Cardholder's signature: .....

# The RABBIT RESIDENCE RESCUE

Charity No: 1148016

## \* Rabbits Available for Adoption

- Pairs/Groups
- Singles  
(for pairing with your rabbit)

## \* Holiday Boarding

- A range of outdoor enclosures available  
(meeting RWF size guidelines)
- Accommodation for rabbits with  
additional needs

## \* Volunteering Opportunities

## \* Sponsor-a-Bunny Scheme

Contact: [rabbit\\_residence@hotmail.com](mailto:rabbit_residence@hotmail.com)

[www.rabbitresidence.org.uk](http://www.rabbitresidence.org.uk)



## RABBIT TRAINING

helping you with IT talk

Microsoft 365 on Tap

a helpline for all PC  
and Microsoft users!

[enquiries@rabbittraining.com](mailto:enquiries@rabbittraining.com)

+44(0)1923 750200

[rabbittraining.com](http://rabbittraining.com)



5\* Luxury Rabbit &  
Guinea Pig Boarding  
for pampered bunnies  
and piggies.

An alternative to traditional hutched boarding with  
homemade purpose built, large spacious and secure suites.  
With large outside runs.

Cared for by bunny slaves Karen and Michael, with 20 years  
rabbit experience and a NVQ in small animal care, your little  
ones will be truly spoilt and treated as their own.

Located Camberley, GU15 3BJ - Telephone 07890989575

We are on Facebook Hug A Bunny Hotel  
Website: [www.hugabunnyhotel.com](http://www.hugabunnyhotel.com)

Having trouble finding just the right  
**Holiday Boarding?**

At [findpetboarding.com](http://findpetboarding.com) you can search  
1,000 rabbit boarding services  
(kennels, catteries  
& other pets too)  
see photos of facilities &  
read comments from guests.



Visit:  
[www.findpetboarding.com](http://www.findpetboarding.com)



Bespoke Rabbit & Guinea Pig Exclusive 5\* Luxury Boarding nr York

[yorkrabbitboarding](https://www.facebook.com/yorkrabbitboarding)

07769 340171

## Bristol Rabbit Rescue and Friends



"Little Lives Matter"

We are a small  
animal rescue centre  
based in Bristol.

Our main aims are educating the public  
and promoting rabbit welfare, as well  
as rescuing and rehoming small furries.

Email: [bristolrabbitrescue@outlook.com](mailto:bristolrabbitrescue@outlook.com)

Facebook: [https://www.facebook.com/  
bristolrabbitrescue/](https://www.facebook.com/bristolrabbitrescue/)

Twitter: <https://twitter.com/bristolrabbitrescue?lang=en>

# RWAF renewal form

On the front of the recyclable envelope that Rabbiting On is now mailed in, you will see your membership number and renewal date. Please help us to save costs and use this as a prompt to renew when the date draws near as we will no longer be sending a separate reminder!

Please renew by **PayPal** or **Direct Debit** if possible as that is most cost effective. We have set up a PayPal subscription so that you will automatically renew in 12 months, unless you cancel it, which means you will not miss an issue of Rabbiting On, and it will save us admin time and costs. If you already pay by standing order, **PayPal**, or **Direct Debit** subscription there is no need to take action. We will automatically renew your membership when the transaction appears in our bank. You can cancel PayPal, standing order or direct debits any time, but we are not able to do that for you.

You can renew online by visiting [www.rabbitwelfare.co.uk](http://www.rabbitwelfare.co.uk)

If you would rather renew by post then please send this form (or a photocopy) with your cheque, to: **Enigma House, Culmhead Business Park, Culmhead, Taunton, Somerset, TA3 7DY.**

Please note, cheques cost 90p to bank, so please add that to the total.

Or you can renew by phoning the helpline on **0191 933 9000.**

If you want to help our campaigning and educational work all donations are gratefully received! Please use the donate button on our website. **THANKS!**

## Membership Renewal. Cheques should be made payable to the Rabbit Welfare Association & Fund.

Description	Qty	Price	Total
Adult/Senior Citizens		£24.00	
Family		£30.00	
UK Veterinary Practices (inc 75 On The Hop RWF booklets UK only) and reduced rates for all staff members at the RWA/F annual Veterinary Conference plus free email referral for all clients to our Veterinary Expert Advisor, Richard Saunders		£55.00	
International Veterinary Practices (inc 35 On The Hop RWF booklets UK only) and reduced rates for all staff members at the RWA/F annual Veterinary Conference plus free email referral for all clients to our Veterinary Expert Advisor, Richard Saunders		£100.00	
Overseas Europe Individual members		£40.00	
Overseas rest of the world individual members		£44.00	
On The Hop 15 copies		£10.00	
£5 Donation to The RWF to support our work		£5.00	
£10 Donations to The RWF to support our work		£10.00	

If paying by cheque, please add 90p

## CREDIT/DEBIT CARD PAYMENT

To pay by Credit Card please complete the form above and the details below.

If you prefer you can telephone your order to: **0191 933 9000**

Please charge my:

Mastercard
  Visa
  Delta
  Switch
  Solo
  JCB
  Maestro

Card No: .....

CV2: (Required) ..... Issue no: (Switch) .....

Valid from: ..... Expiry date: .....

Cardholder name: .....

Cardholder's signature: .....

## GIFT AID

Your generous donations to The RWF can now be increased by almost one third at no extra cost to you. Tax laws allow The RWF to reclaim the tax you paid on them. **Gift Aid Declaration.**

I wish The Rabbit Welfare Fund to reclaim the tax paid on any donations I make on or after 6th April 2020 and to treat them all as Gift Aid Donations. I confirm that I am a UK tax payer and pay an amount of income tax at least equal to the amount The RWF will reclaim in the tax year

Surname: ..... Mr/Mrs/Miss/Ms: .....

Initial/First name: .....

Address: .....

Postcode: .....

Signed: ..... Date: .....



# Back issues

## Keep up with the rabbit news!

Back copies of recent copies of Rabbiting On are available. If you missed any of them why not order a copy now? Back copies start from £4 each (depending on the issue date). There is a standard charge of £6.50 for postage and packing - this is per order, not per item. You can combine this with orders from our RWAF shop at [shop.rabbitwelfare.co.uk](http://shop.rabbitwelfare.co.uk), so why not have a browse and order all of your items for one postage charge? There are some special offers on bulk orders too.

To order back copies please fill in the form on this page with the details of the issue or issues you would like to buy to: **RWAF, Enigma House, Culmhead Business Park, Taunton, Somerset TA3 7DY** along with a cheque or Postal Order. Please make cheques payable to **Rabbit Welfare Association & Fund** (if paying by cheque please add 90p onto each cheque to cover our banking administration costs).

You can also order back issues via the website at [shop.rabbitwelfare.co.uk](http://shop.rabbitwelfare.co.uk)

## The following back issues are available:

### SPRING 2011 - £4.00

- Focus on the eye • Hay • Bunny calendar
- Creating the correct environment

### WINTER 2011 - £4.50

- Rabbit home improvements • Mythbusters
- Environmental enrichment • Mammary tumours

### SPRING 2012 - £4.50

- Why rabbits gain weight • What does your vet know about rabbits? • What's in a lump? • Aggression

### SUMMER 2012 - £5.00

- New myxi vaccine • Travelling with rabbits
- Arthritis • How to reduce stress

### AUTUMN 2012 - £5.00

- Zoonoses - diseases spread from pets to humans • Fleas, ticks and lice • Moulting
- Introduction to natural foods

### WINTER 2012 - £5.00

- House rabbit special • Bunnyproofing your home
- Health and behaviour issues for indoor rabbits
- Moving an outdoor rabbit inside

### SPRING 2013 - £5.00

- Pain relief in rabbits • Introducing rabbits and other pets • Handling • History of antibiotics

### SUMMER 2014 - £5.00

- Common cancers • A year in the life - Summer
- When bonded bunnies fight • Digging and chewing
- Manuka honey • VHD update • April's story

### WINTER 2014 - £5.00

- Dental disease • Passive smoking and allergies
- The musculoskeletal system • What droppings tell us • Insurance

### SPRING 2015 - £5.00

- Gastrointestinal stasis • Training your rabbit
- My rabbit won't eat hay • Pineapple juice
- Caring for accidental litters • Avoiding flystrike • Dental disease

### SUMMER 2015 - £5.00

- Myxomatosis • Social needs • Communicating with your rabbit • Bereavement • Checking for abscesses
- Summer safety • Wood preservatives
- Sponsor a rescue

### AUTUMN 2015 - £5.00

- Parasite special issue • Coccidiosis
- External parasites • *E. cuniculi* • Ear mites
- Fireworks • Focus on Vegetables and Fruit, Part 1
- Choosing a boarder

### WINTER 2015 - £5.00

- Trancing • Bonding groups of rabbits
- Taste buds • Gnawing and chewing
- Heart disease • Dental x-rays • Weight loss

### SPRING 2016 - £5.00

- Bloat • Fibre in pellets • Post operative care
- Signs your rabbit needs to see a vet
- When to separate ill rabbits • Compassion fatigue
- Ailments across the seasons

### SUMMER 2016 - £5.00

- RVHD1 and 2 • Legislation • How to clip claws
- Sponsor a Rescue 2016 • Osteoarthritis
- Boys will be boys • Rex rabbits • Encouraging rabbits to eat

### AUTUMN 2016 - £5.00

- Caring for a disabled rabbit
- How to give eye and ear medication
- Volunteering and fundraising
- How to tell if your rabbit is neutered
- Your health questions answered
- How to become a rabbit boarder
- Keeping houserabbits

### WINTER 2016 - £5.00

- Ear based abscesses • Head to tail, teeth and mouth
- Living with a blind rabbit • How to clean your rabbit
- Kidney disease • Sudden temperature changes
- Thymomas • What is company

### SPRING 2017 - £5.00

- Megacon • Grooming your rabbit
- Outdoor safety • RVHD2 update
- Assessing pain • Head to tail, your rabbit's nose
- Bunnies of the Year 2016 winners
- How to select insurance

### SUMMER 2017 - £5.00

- Head tilt • CT scans • Neutering rabbits
- Physiotherapy • Head to tail, your rabbit's digestive system • Sponsor a rescue 2017
- How to keep your rabbits cool in summer
- Tear duct flushing • Why rabbits fight

### AUTUMN 2017 - £5.00

- Infectious disease special issue
- Handling rabbits • Enclosure size and behaviour
- Myxomatosis and RVHD • Syphilis • Pasteurellosis
- Head to tail, skin and fur • Nursing a myxomatosis rabbit • Vaccinations explained • RVHD2 owners story

### WINTER 2017 - £5.00

- Caring for an amputee rabbit • How to select flooring • Hay types • Long haired rabbits
- Middle ear disease casebook • Moving on from muesli • Poisons • Body Condition Scoring • Head to tail, the nervous and skeletal systems

### SPRING 2018 - £5.00

- Dental disease special issue • Jaw abscesses
- Vitamin D, calcium and dental disease
- Airway management • Dental extractions
- Syringe feeding • How to spot the signs of dental problems • Diet and dental disease
- Head to tail, the urinary system
- 2017 Bunnies of the Year results

### SUMMER 2018 - £5.00

- Brachycephalic rabbits • Sponsor a Rescue 2018
- Diet reviews • Pre and post-operative care
- Methods to reduce stress during handling
- How to care for older rabbits
- Kidney removal casebook
- Head to tail, the reproductive systems

### AUTUMN 2018 - £5.00

- Antibiotics • Common terms • Exits in enclosures
- Cataracts • Feeding myths • How to encourage weight loss • The origins of domestication • Head to tail, the feet • The owner's role in reducing anaesthetic risk

### WINTER 2018 - £5.00

- Foraging • Clinical handling • Training, Part 1
- Vaccinations • Parasites • Gastrointestinal stasis and blockages • Home checking • Relinquishment survey results • Keeping rabbits warm in winter

### SPRING 2019 - £5.00

- Feeding greens • Digging • Training, Part 2
- Outdoor housing • Protecting from predators
- Rabbit keeping 100 years ago • Rescue centre expenses • How to get a urine and faecal sample
- Resource guarding • Stasis timeline • Making a rabbit garden

### SUMMER 2019 - £5.00

- How to nebulise • Correct feeding • Creating a rabbit meadow • Bladder sludge and stones
- Why rabbits need a friend • A large scale rabbit rescue
- Physiotherapy • Sponsor a rescue 2019
- Do rabbits avoid poisonous plants?

### AUTUMN 2019 - £5.00

- Fear free special issue • The body language of fear
- Vetlife • Reducing the need to handle rabbits • Fireworks • How to provide enrichment to reduce fear and stress • Single rabbit stress
- Socialisation of young rabbits • What causes fear in rabbits? • Neutering

### WINTER 2019 - £6.00

- Choking dangers • Lop eared rabbit study
- Using harnesses on rabbits • How to health check
- Bonding • Cancers • Why rabbits hop • Selecting a rabbit savvy vet • What vaccinations your rabbits need

### SPRING 2020 - £6.00

- Can human company replace that of another rabbit?
- Enucleation • Spring fever • Rabbits as therapy
- RVC mortality study results
- How early life experiences affect bonding
- Flystrike • Why a rabbit savvy vet is essential
- Stress free medicating and syringe feeding

### SUMMER 2020 - £6.00 - BUMPER ISSUE - 8 EXTRA PAGES

- Caring for rabbits as they get older • Microchipping
- Assessing quality of life • Trancing • Anaemia and stress study results • Moving home • Obesity • The Five Welfare Needs; the need for a suitable environment
- Keeping males together • Floppy Rabbit Syndrome

### AUTUMN 2020 - £6.00

- Desensitising and counterconditioning • Nursing head tilt rabbits • The Five Welfare Needs; the need for a suitable diet • Winter care • Breed health problems
- Rabbits as school pets • Indoor rabbit cages • What is happiness for rabbits? • Wood Green The Animals Charity and Covid-19 • Pet Remedy study results

### WINTER 2020 - £6.00

- Conscious dental treatments • Wound care at home
- Flooring options • The Five Welfare Needs; the need to be able to exhibit normal behaviour patterns
- The pros and cons of hay racks • Sex behaviours in neutered rabbits • Petting zoos and farms • Mirror study results • Trancing and towel wrapping at the vets

### SPRING 2021 - £6.00 - 25 YEAR ANNIVERSARY ISSUE

- Dangerous drugs • Feeding babies • Spring grass
- 25 years of the BHRA/RWAF • Ethics; extreme breed conformation • 25 years of rabbit health • Feeding over 25 years • The Five Welfare Needs; the need to be housed with or away from other animals • Housing solutions • Bonding in a rescue environment • Nursing flystrike rabbits

### SUMMER 2021 - £6.00

- Encouraging natural movement • Abnormal fur loss
- Rabbit handling methods survey results
- Myxomatosis and RVHD • Polydipsia and polyuria
- Litter and substrate options • Respiratory tract disease • Sponsor a rescue 2021 • Rabbits and children
- Ethics; showing rabbits • The Five Welfare Needs; the need to be protected from pain, suffering, injury or disease.

# Snugglebunnies

Selling a beautiful variety of hand-made goods



Bunny Buffers  
(narrow buffer)  
Price  
**£25.00**



Huge variety of products to fit the Ikea Duktig bed  
Prices: Various (this photo shows padded cushion £12 and pillow £4)



Prices starting from  
**£6.50**

Personalised pillows with your bunny's name embroidered and a choice of motifs and colours.



Prices starting from  
**£10.00**  
each

Padded Cushions - made to order



Price  
**£5.00**  
each

Huge selection of fleece heat pad covers (also fit cool pods). Over 100 fleece designs in stock!



Bunny Buffers  
(wide buffers)  
Price  
**£25.00**



Price  
**£10.00**  
(discounts on combined purchases)

Hot water bottle covers (for humans, not bunnies!)



Prices starting from  
**£5.50**

Solid wood bunny shapes in a variety of rabbit breeds. Available in natural pine, varnished, or painted in Cuprinol Shades paint (wide range of colours available).



Leaping Bunny  
key hooks  
Prices from  
**£9.95**



Door Number Plaques. Price dependant on style and number required. Several design options and finishes/colours available.



10% from every Snugglebunnies' sale goes to supporting the work of the Rabbit Welfare Association and Fund.

Go to our Facebook page: [facebook.com/snugglebunniesfortheRWF](https://www.facebook.com/snugglebunniesfortheRWF)

or email Rosie at: [rwaf\\_volunteer\\_22@yahoo.co.uk](mailto:rwaf_volunteer_22@yahoo.co.uk)

Instagram: [snugglebunnies4rwaf](https://www.instagram.com/snugglebunnies4rwaf)

Over £4000 already raised for the RWF!

# THE *Excel*<sup>TM</sup> FEEDING PLAN

92% OF VETS RECOMMEND EXCEL\*



EXCEL  
FEEDING  
HAY

1

+

EXCEL  
TASTY  
NUGGETS

2

+

EXCEL  
NATURE  
SNACKS

3

+

FRESH  
GREENS

4

+

FRESH  
WATER

5

## THE COMPLETE DIET FOR RABBITS

[www.burgesspetcare.com](http://www.burgesspetcare.com)

  @burgessexcel

\*Annual survey with uk vets