

**The Pet Food Manufacturers' Association in collaboration with the Pet Industry Federation held a Rabbit Symposium to discuss rabbit nutrition and welfare through several short talks followed by break-out discussions. One message came through loud and clear...**

# Hay, hay, we're the ~~Monkees~~ rabbits



**W**HETHER YOU'RE in the muesli- or nuggets-for-rabbits camp, the key message that should be getting out to rabbit owners is that their pets need hay. And lots of it. Chris Laurence FRCVS, who chaired the symposium, summed it up neatly at the end of the day when he said: "We have been distracted between muesli and nugget, but we

should be talking about hay and green stuff."

Five speakers gave short talks at the event, with topics including diet, nutrition, welfare and the types and quality of hay. The break-out sessions looked at education and the key messages for owners; what should be included in a rabbit's diet and how can one encourage natural foraging behaviour; and finally, future research projects on nutrition and welfare.

All participants agreed that the key message that needs to be communicated to owners is that rabbits need hay, that hay has to be the primary food with the correct amount of commercial food to complement the hay, along with fresh vegetables.

The first speaker was Dr Ambrose Tinarwo, of Hadlow College, who worked with Dr Wanda

McCormick on a year-long trial looking at the effects of feeding muesli and nuggets to rabbits. An earlier trial by Meredith and Prebble in 2015 had concluded that feeding muesli diets cannot be recommended due to selective feeding, which had detrimental impact on health.

## HOW MUCH SHOULD YOU FEED?

In this latest trial, 32 rabbits were kept in two social groups as pets at Hadlow College and Moulton College, and therefore had daily student encounters as well as grooming, and were kept in conditions experienced by pet rabbits. Each group underwent a 150-day trial on nuggets and muesli, with a two-week transitional period. Each group therefore had access to both muesli and nuggets under the same conditions.

The test diets were manufactured by the same company and had a near identical nutritional profile, and were based on the FEDIAF recommendations for rabbits.

Each group had unlimited access to hay and fresh grazing, unlimited water, driftwood for chewing and vegetables for enrichment.

At the end of the trial, the researchers found that whether the rabbits were fed muesli or nuggets,

## Still lots of confusion among owners

Dr Nicola Rooney from the University of Bristol looked at the welfare needs of rabbits based on a study conducted six years ago. This study involved 2,169 respondents from three geographical areas in the UK – the north west, eastern and south-west areas.

The study assessed various aspects of rabbit welfare including husbandry, accommodation and diet. Crucially, the study did not just rely on the respondents' answers but also visited the homes of about 10% to see in reality how rabbits were being kept. This enabled the researchers to see how accurate owners were in their description of how they kept their pets.

These home visits also enabled the researchers to check and assess the health of rabbits (eg. weight, nail condition) – which included poo samples.

While most participants fed pellet and the majority said they gave their rabbits constant access to hay, 1% said they never gave



Dr Nicola Rooney, University of Bristol

their rabbits any hay and those feeding muesli were also more likely to offer less hay.

Rabbits with only occasional hay or grass showed less overall positive behaviour such as jumping, and those with less hay

had more instances of impacted caecotrophs and more soiled bottoms.

Rabbits that were given far less hay also had more dental issues, she said, so 'hay provision is very important'. At the time of visit, many did not have hay, she said.

The results from the study were eye-opening:

- 15% of owners think their rabbits eat too much hay
- 31% cannot tell an obese rabbit
- 21% think rabbits need constant access to muesli
- 42% think rabbits need constant access to nuggets

The key findings, she said, were that there were numerous health and behaviour issues, and that many owners do not follow manufacturer's guidance on the amount of commercial food to give to their rabbits.

She said: "A lack of good quality hay is a large issue, especially for muesli feeders."

The industry needs to improve the education of owners, she said.



This helpful poster (right) showing how much hay and other food to feed a rabbit can be downloaded from [www.pfma.org.uk/the-importance-of-hay-poster](http://www.pfma.org.uk/the-importance-of-hay-poster) or retailers can also email [nicole@pfma.org.uk](mailto:nicole@pfma.org.uk)

there was no significant difference in starting or end weight or in body condition, and there was in fact a slight improvement across both groups with dental health. They also found there was no evidence of apparent selective feeding if rabbits are fed at maintenance level, that is when all food is eaten and the muesli diet was not topped up or replaced daily, with uneaten food thrown away.

Their conclusion was that the primary diet had to be hay, 'supplemented to maintenance level' by a commercial food, whether muesli or nugget. Feeding the correct amount of commercial food was therefore >>



Molly Varga

## Rabbits – fit, not fat

A rabbit that is not moving around is not going to have good gut health, said Molly Varga of Rutland Veterinary Referrals. Long stem fibre is also crucial to the health of the gut as well as dental health, she said: "The rabbit is reliant on its gut." Feed the gut improperly and it affects many facets of a rabbit's well-being and can result in obesity, heart and liver diseases, as well as many other conditions including hock sores.

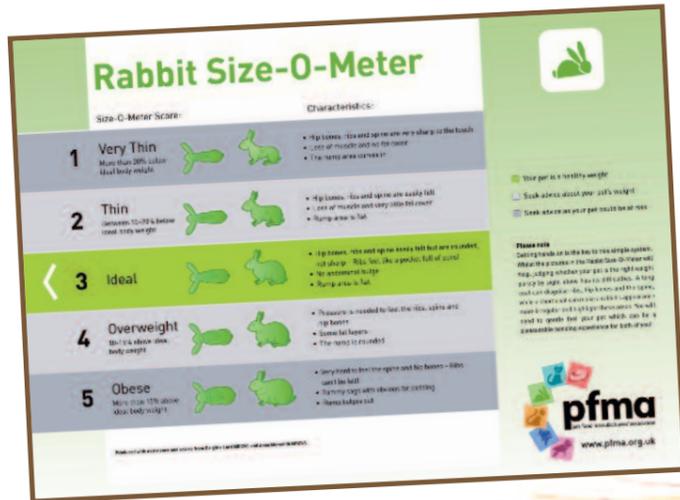
A good diet and opportunities for

exercise – or rather, opportunities for rabbits to do what comes naturally – go hand in hand. "You cannot outrun a bad diet," she said.

Although size of enclosure is key, owners have to encourage rabbits to exercise because in the wild, rabbits will spend eight to 12 hours moving around, socialising and feeding, which she concedes is difficult to replicate for pet rabbits. "Make the rabbit work for its food," she said, and one way to

encourage foraging behaviour is by scattering its daily portion of food over the area.

Hay has to be the primary diet, and about 15% of the diet should also comprise leafy greens, the bigger the variety the better. Best practice is therefore a small amount of pellets, which have no added sugar, and lots of long stem fibre. "And make rabbits work for food, so make them forage and encourage more activity," she said.



The PFMA Rabbit Size-O-Meter can help owners assess whether their rabbit is overweight



<< more important than whether it was muesli or nugget, and manufacturers could help by providing a measuring cup with clear guidance for feeding amounts.

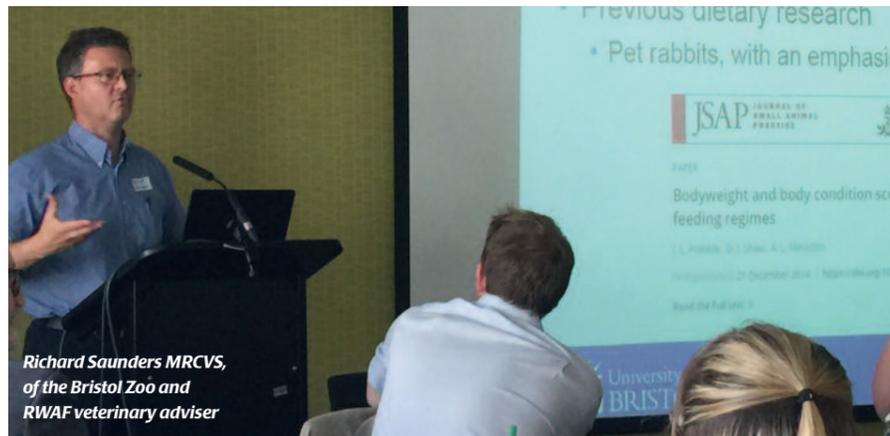
**FIBRE, MORE FIBRE, PLEASE!**

Richard Saunders MRCVS, of the Bristol Zoo and RWAF veterinary adviser, agreed to disagree on muesli, but said everyone can agree 'on the clear benefit of increased fibre content' for the dental health of rabbits.

He referred to the latest PAW Report by the PDSA, which estimates there are about a million rabbits, of which 28% live in a hutch or cage that is too small, that 20% (200,000) are fed muesli as part of their main diet, and that 77% of owners don't know their pet's current weight and / or body condition score.

With the theme of The Good, The Bad and The Ugly, he said it was good that the figure of muesli feeders had dropped from 49% in 2011 to 20%. It was also good that 77% of owners said they fed hay, up from 62%.

In addition, fresh greens (75%) and rabbit pellet food (72%) are being fed by the majority of owners as part of their rabbit's main diet. When rabbits are fed hay, their water consumption also goes up, he



Richard Saunders MRCVS, of the Bristol Zoo and RWAF veterinary adviser

said, which is also good as water is too often a 'forgotten nutrient', he said.

The Bad is that too many rabbits are not getting enough good quality hay – about half of owners feed the recommended amount of their rabbit's body size or more, but 31% feed less than and 1% feed no hay at all. In addition, 14% don't know

how much hay or grass their rabbit eats.

The Ugly concerns treats – 83% of owners give treats to their rabbit, with the majority (57%) saying it provides variety for the rabbit, makes the rabbit feel happy (39%) and makes the owner feel happy (22%). But it's the type of treat being given that is of most concern – including fried rice with curry! ■



Delegates to the half-day symposium took part in table discussions on education of rabbit owners, diet and future research

Far more research needs to be done on hay, said Dr Wanda McCromick of the Anglia Ruskin University.

The nutritive value of hay is dependent upon the maturity of the plant at harvest, and this depends on the stage of growth and the plant species.

Then there are all the different varieties, for example hay from leguminous sources like alfalfa has a high mineral content, while timothy hay has lower calcium levels which suit rabbits better as the species is prone to calcium issues.

**What exactly is in the bag?**

Hay is also being sold under so many different labels, which can be confusing for retailer and owner: there is meadow hay (which depends on what is in the field, so potentially hundreds of varieties), timothy hay, grass hay, feeding hay, botanical hay (enriched with herbs), bedding hay and hay, to name a few.

"Then some talk about palatability levels, softness, whether it's locally produced, drying methods and even use the word

'natural'. Some companies give a basic nutrient breakdown," she said, "but very few give feeding guidelines."

This means owners can be confused as to how much to offer their rabbits, and so the whole topic of hay needs more study, she said, and more work needs to be done in areas such as devising a method for scoring hay quality, looking at species comparisons and the nutritive value of hay.