

HULLABALOO IN THE KITCHEN AT THE ZOO

No apples for tubby monkeys

Many apes get too much fruit; giraffes and okapis are often fed as if they were cows. Zookeepers' knowledge of animal nutrition is sometimes outdated. Van Hall Larenstein, part of Wageningen UR, developed a course for them.

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Fruit is healthy. One piece of fruit is good, two pieces of fruit are good, and so twenty pieces of fruit must be good too. That is often how the thinking goes, when it comes to feeding monkeys and great apes. 'Primates in zoos often get fruit all day long. But our cultivated fruits are very sweet. Most wild fruit contains much less sugar and more fibre; comparable with vegetables here', says Anouk Fens. For her graduate research project on the Animal Management programme at Van Hall Larenstein (VHL) university of applied sciences, Fens and a fellow student studied the diet of the golden-headed lion tamarin, a Brazilian species of monkey which is seri-

ously endangered. For this reason there is a European breeding programme for the species, but among the golden-headed lion tamarins in Antwerp zoo there were many stillbirths as a result of overweight. Overweight leads to large babies and a bigger risk of death during delivery for both baby and mother. The main reason lies in a diet with too much sugar: the tamarins' pellets were even being laced with rose hip syrup. Yet the VHL students' recommendations were not immediately taken to heart, says Fens, who is now on a Master's programme in Animal Sciences in Wageningen. Fens: 'As long as people on the job do not under-

stand why they shouldn't give something to 'their' animal, or why they should weigh an apple, it will still be difficult.'

NOT ALL COWS

This experience illustrates how slowly knowledge about animal nutrition finds its way into standard practice. This bothered Tjalling Huisman, who teaches Animal Nutrition at VHL. 'The attention paid to the diet of zoo animals in courses on animal management ranged from little to nothing. What is more, a lot of new insights have been gained in the last couple of decades', says Huisman. One persistent misunderstanding concerns



ruminants. 'For a very long time, the cow was taken as the model for a ruminant's diet, whereas there is a huge variation in the digestive systems of, for instance, deer and antelopes. Many of these animals eat leaves, not grass. This knowledge has been available for a long time, but does not always end up on the work floor. You still see giraffes being fed hay. Actually, there is often no good alternative.'

And what about the importance of vitamin D, made in the body with UVB light, for calcium absorption in reptiles? 'There are UVB lamps hanging up in most zoos, but often at the wrong height. Moreover, the workers often don't know that the lamps lose effec-

tiveness and have to be changed.'

Huisman's plans to offer zookeepers in-service training won the support of the Dutch Zoos Association (NVD) and the European Association of Zoos and Aquaria (EAZA). In 2008, he received funding under the Ministry of Economic Affairs, Agriculture and Innovation's scheme for sharing knowledge and innovation in green educational institutions (KIGO). VHL has already developed a three-day course for zookeepers as well as educational material for use in vocational colleges and applied sciences universities.

Much of the knowledge in the course material came from VHL research. 'Research on

giraffe nutrition, for example, is of no economic interest. And then there are no homogeneous groups in zoos. So, just as in veterinary science, you depend largely on case studies, and they are just the job for applied sciences students', explains Huisman.

SHARK FOOD

VHL students are currently engaged in research on the diets of reindeers and elephants, and the mixes of fish species that are fed to sharks and marine mammals. VHL makes sure the results get into zoo journals and text books, and the students give talks and poster presentations at Dutch and European conferences.

The course for zookeepers has been run three times. 'We brought in the theory and the zookeepers brought in valuable hands-on knowledge and case material. So it went both ways', comments Huisman. The VHL lecturer would like to give the course Europe-wide, with the help of EU funding. A rerun in the Netherlands will be harder to organize without support under the KIGO scheme.

'Our keepers are queuing up for a follow-up course, but time and money are a problem', says Joeke Nijboer, diet expert at Blijdorp Zoo. 'We found that our keepers had too little knowhow about the diets of exotic animals. Thanks to the course they have gained more insight and have a better idea of what the animals need and what they should look out for. This makes communication with the keepers smoother, and information comes to light more easily', thinks Nijboer. 'And in the end the animal benefits from that too.' ■