

## MINERALS IN THE COMMERCIALY PREPARED FOOD FOR DOGS AND CATS

### SADRŽAJ MINERALA U KOMERCIJALNOJ HRANI ZA PSE I MAČKE

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#### ABSTRACT

Minerals are often the cause of pets health problems. The reason can be too low or too high daily intake, or improper form of minerals.

We analysed 38 samples of commercial complete food for dogs and cats on mineral content at the Institute for Hygiene and Pathology of Animal Nutrition of Veterinary Faculty in Ljubljana in the period between February 1992 and October 1997. Sample were taken from the Slovene market primarily to control their quality in relation to the producer's declaration but they were also on minerals later analysed. The method of AAS (Atomic Absorbic Spectrometry) was used, and the results were compared to the recommendations for daily intake of minerals given by Meyer. In data analysis different categories and kinds of animals and different kinds of commercial food were considered.

Key words: animal nutrition; minerals; requirements; commercial food; dogs; cats

#### INTRODUCTION

We could say that food represents a solid or liquid substance that can nourish a living being. We could say that food consists of five groups of nutrients:

- carbohydrates
- fats
- proteins
- vitamins
- minerals and trace elements.

Every group of nutrients has its role in the body function, so they can be:

1. energy substances
2. substances for growth, reparation of tissues and/or reproduction

3. substances for regulation of the organic processes

#### Minerals and trace elements

Minerals are an important part of animal nutrition. They constitute only a small fraction of the body and this fraction also shows the requirements. For normal body functions it is necessary to provide optimal daily intake of minerals. We can provide that by adding minerals in the form of different pills to

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the home prepared food or feed our dogs and cats with on commercially prepared food, which is usually declared to contain all the necessary nutrients and needs no additions.

## METHODS

To see if commercially prepared food really provides optimal daily intake of minerals using the method of Atomic Absorption Spectroscopy we analysed 38 samples of commercially prepared food for dogs and cats. Our main aim was to ascertain whether the quantities of Calcium, Phosphorus, Zinc, Manganese, Iron and Copper in our samples met the daily requirements recommended by Meyer.

## RESULTS

For calculations of daily requirements we took into consideration the category and age of animals. In the first group, dog - junior, were 6 months old dogs, weighing 10 kg, needing daily 250 g of dry food or 800 g of moist food. In the second group, dog - adult, were dogs weighing 20 kg needing daily 330 g of dry food or 1350 g of moist food. And in the third group, were adult cats weighing 4 kg needing 70 g of dry food or 315 g of moist food.

Then we calculated the actual daily intake using the producer's recommendations on the quantity of a certain product an animal should eat per day and results of analysis. In most cases the amounts of minerals exceeded those recommended. Exceptions were Cooper and Zinc in samples of food for dogs – junior. The amounts met the requirements of a 6 months old 10 kg puppy, but they did not meet the requirements of younger puppies. These samples were taken from food declared to be suitable for younger puppies as well, although their needs are much higher.

In general we can say that requirements for adults dogs were satisfied much better than the requirements for growing dogs.

## CONCLUSION

Pet owners like to add vitamins and minerals to normal daily feed is the fact that producers of pet food have to be aware of. They are added not only to the home prepared food but to the commercially prepared food as well. We can find minerals in many different forms. They can be given to a pet as are award or simply because of the general idea that minerals and vitamins are always missing in nutrition and that it does no harm to give more. But in the case when commercially prepared food contains high amounts of minerals, this kind of feeding can be a potential danger for development of metabolic illnesses and, especially in young animals, a cause for many growth disorders.

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## SAŽETAK

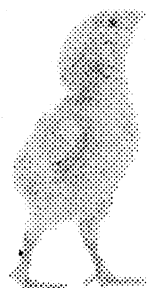
Minerali su često uzrok različitih zdravstvenih tegoba kućnih ljubimaca. Bilo to zbog preniskog ili previsokog unosa ili zbog nepravilnog izbora oblika minerala.

U razdoblju od veljače 1992. do listopada 1997. na Institutu za higijenu i patologiju hranidbe Veterinarskog fakulteta u Ljubljani na prisutnost minerala analizirano je 38 uzoraka komercijalne potpune hrane za pse i mačke. Uzorci komercijalne hrane za životinje uzeti su na slovenskom tržištu, zbog kontrole kakvoće vezane uz deklaraciju proizvođača, ali su analizirani i na prisutnost minerala. Za analizu uzoraka upotrijebljena je metoda AAS (Atomic Absorbic Spectrometry), a rezultati su uspoređeni s normativima po Meyer-u. Kod analize rezultata uzeti su u obzir različite kategorije i vrste životinja i različiti oblici komercijalne hrane za kućne ljubimce.

Ključne riječi: hranidba životinja; minerali; potrebe; komercijalno pripremljena hrana: psi; mačke

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