

NUTRIENT COMPOSITION OF FEEDSTUFFS FED TO ANIMALS IN THE NATIONAL ZOOLOGICAL GARDENS OF SOUTH AFRICA

Kyungu Mwimbi Ulrich,¹ François K.Siebrits¹ and Khanyisile R. Mbatha²

¹Department of Animal Sciences, Tshwane University of Technology, Private Bag X680, Pretoria 0001, South Africa

²Animal Nutrition Unit, Research and Scientific Services, National Zoological Gardens of South Africa, P.O. Box 754, Pretoria, 0001, South Africa

Abstract

Processes of preparing balanced diets, limitations in the supply of suitable feedstuffs to captive animals and their diversity in the zoological community are special challenges to diet management. The knowledge of the nutrients needed by the animal and what feeds will supply those nutrients, is one of the most important steps in managing diet of animals in captivity. In the National Zoological Gardens of South Africa, the food items were mainly composed of plants, vegetables, meat, fish, invertebrate and vertebrates, pellets, forages and some supplement. Literature survey and laboratory analyses were used to determine their nutrients composition. International Network of Feed Information Centres (INFIC) nomenclature was adopted to describe the dietary items. Results revealed that feeding practices in zoological gardens are based on common nutritional knowledge, human understanding and livestock nutrition. There were significant nutritional differences between lucerne in winter and summer; between eviscerated day-old chicks and non-eviscerated in terms of protein and fat content and ash respectively. Storage time of Alfalfa *Medicago sativa* may be the main cause of variations. Fishes showed significant differences on protein and fat content between batches within hake (*Merluccius spp*) and ash, protein and fat content for maasbanker (*Trachurus capensis*), whereas sardines and calamari (*Loligo spp.*) did not show any significant differences. Since, information on feedstuffs nutritional composition plays an important role towards animal performance, the identification and the knowledge of nutrient composition of dietary items fed to animals, based on specific variables need to be documented.