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## FOOD AND CALCULATED ENERGY INTAKE IN CAPTIVE GIRAFFE (*Giraffa camelopardalis*) IN THE UK

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### Poster abstract

Due to the high prevalence of pathological indications of energy malnutrition in captive giraffe (Clauss et al. 2006), the provision of dietary energy to these animals, and more importantly, the actual intake of the food items offered, is of great interest in giraffe husbandry. Unfortunately, the determination of the actual intake of herbivorous animals – usually kept in groups, and usually offered large amounts of forage ad libitum – is labour-intensive: not only the trough feeds/concentrates, but also the hay/browse has to be weighed - as offered and the respective leftovers. In order to assure that the results are representative for the current feeding regime, at least three consecutive days of measuring are recommended. Here, we report results of such intake measurements in captive giraffes at seven zoos in the UK. A total of 33 animals (kept either in groups or individually; body weights estimated) were evaluated during four consecutive days. Intake was expressed as mean per animal. Samples of the feeds used were submitted to standard nutrient analysis; metabolizable energy (ME) content was estimated from nutrient content using standard UK cattle equations. The assumed range of energy requirements was 0.39-0.59 MJ ME/kg<sup>0.75</sup>. Fig. 1 summarizes the results of the calculated ME intake of the 33 animals. There was a correlation between the amount of concentrates offered/ingested and the ME intake. Forage (hay) intake was lowest in an animal group receiving a pelleted food ad libitum, and in a herd offered grass hay. In contrast, hay intake was highest in the animals that received the lucerne hay with the highest protein content in this survey. There was no correlation between roughage intake and ME intake. In general, the results roughly indicate that energy intake in the giraffes studied was appropriate at the time of measurement. However, large differences in ME intake between the facilities are evident. While an appropriate ME intake was achieved by different feeding regimes in this study, the proportion of roughage in the overall diet was very variable and depended on forage quality.

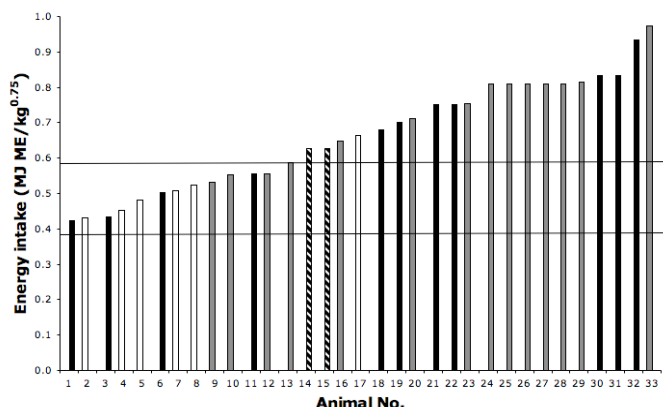


Fig. 1. Calculated metabolizable energy (ME) intake based on intake measurements in captive UK giraffes. Note that ME intake of all animals is within the calculated adult maintenance requirement range (horizontal lines). White – males; black – females; grey – subadults (growing); striped – lactating females.

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#### **Reference**

Clauss M, Rose P, Hummel J and Hatt JM. (2006): Serous fat atrophy and other nutrition-related health problems in captive giraffe – an evaluation of 83 necropsy reports. Proc. EAZWV (this volume)

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