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Determination of daily forage requirements of camels in the Tabas rangeland

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Key words : metabolized energy ,daily forage requirement ,camel

Introduction In order to evaluate grazing capacity ,it is necessary to be aware of animal daily nutrient requirements for sustainable nutrition .Different kinds of animals prefer different plant species and have different needs .Camels graze arid rangelands in Iran and can survive hard ,desert conditions .

Materials and methods Forage quality (CP% and ADF%) was calculated for several vegetation types .Dry matter digestibility was estimated by formula 1 (suggested by Oddy *et al* 1983) .Metabolizable energy of forage was predicted using equation 2 (suggested by AOAC 1990) .The metabolizable energy requirement of camels (500 kg live weight) was estimated to be 70 .2 MJ (Wilson ,1989 ; Arzani *et al* 2005) .The daily forage requirement of camels was calculated taking into account the metabolizable energy of the forage and the metabolizable energy requirements of the camels ,for each vegetation type .

$$\text{DMD}\% = 83 .58 - 0 .824 \text{ ADF}\% + 2 .626 \text{ N}\% \quad (1)$$

$$\text{ME} = 0 .17 \text{ DMD}\% - 2 \quad (2)$$

Results As shown in Table 1 ,the mean metabolizable energy of the forages was 9 .1MJ and the mean daily forage requirement for camels was calculated to be 7 .7kg dry forage .Grazing capacity of the Tabas rangeland was calculated to be 592 camels (details not reported here) .

Table 1 Mean ME and daily forage requirement for camels in Tabas rangeland .

| Vegetation types | Mean metabolizable energy of forage (MJ) | Daily requirement of camels (kg dry forage) |
|--|--|---|
| <i>Artemisia siberi-Zygophyllum atriplicoides</i> | 8 .8±0 .2 | 8 |
| <i>Haloxylon ammodendron-Hammada salicornia</i> | 9 .2±0 .3 | 7 .6 |
| <i>Seidlitzia rosmarinus-Haloxylon ammodendron</i> | 9 .6±0 .3 | 7 .3 |
| <i>Artemisia siberi-Seidlitzia rosmarinus</i> | 8 .8±0 .2 | 8 |
| Mean | 9 .1 | 7 .7 |

Conclusions Daily forage requirement for camels depended on forage quality . Because forage plants varied in quality , metabolizable energy content varied with vegetation types .Therefore feeding arrangements for camels need to take into account differences between rangelands .Grazing capacity of rangelands can be increased by enhancing forage quality .

References

- AOAC (1990) .Official Methods of the Association of Official Analytical Chemists .15th ed .Washington D .C . ,USA . Arzani , H . , Naseri K . ,(2005) .Livestock grazing in rangeland and pasture .*Tehran University* . 301p .
Oddy ,V .H . ,Robards ,G .E . and Low ,s .G .(1983) .Prediction of *in vivo* dry matter digestibility from the fiber and nitrogen content of a feed .Glenfield ,New south Wales ,Australia ,*Veterinary Research Station* . P 395-398 .
Wilson ,R .T .(1989) .The nutritional requirements of camel I .L .C .A .Addis Ababa (Ethiopia) .*Option Mediterranean's* , no 2 : 171-179 .