

Productivity and grazing capacity of five typical natural rangelands for Yaks in the Alpine region of China

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Introduction The Qinghai-Tibet plateau has greatly aroused the interest of scientists as an uncommon rangeland resource of great agro-ecological importance. Yak (*Bos grunniens*) is a unique, vulnerable ungulate. The objective of this experiment was to evaluate the productivity and feed value of five natural rangelands.

Materials and methods The experiment was conducted in Tianzhu county of Gansu province during 1998 and 1999. Dynamic changes in yield and feed value (content and degradability in sacco of DM,OM,ADF,CP) of five groups of alpine rangelands, comprising *Elymus nutans*, *Kobresia capillifolia*, *Polygonum viviparum*, *Rhododendron spp.* + *Carex spp.* and rangeland elevations (m) are: A 2880, B 2930, C 2980, D 3030 and E 3080. Grazing capacity was based on the grazing intake of a mature Yak cow (Yan *et al.*,2003) and the Chinese Law on the grazing rate for protecting rangeland from deterioration. Degradability of mixed samples from each rangeland was calculated according to Orskov & Mcdonald (1979).

Results Content and degradability of each nutrient showed had the highest values in July and August except for ADF content (Figure 1). The maximum grazing capacities were 338,272,290,245,184 heads/day/ha for each alpine rangeland, respectively (Table 1).

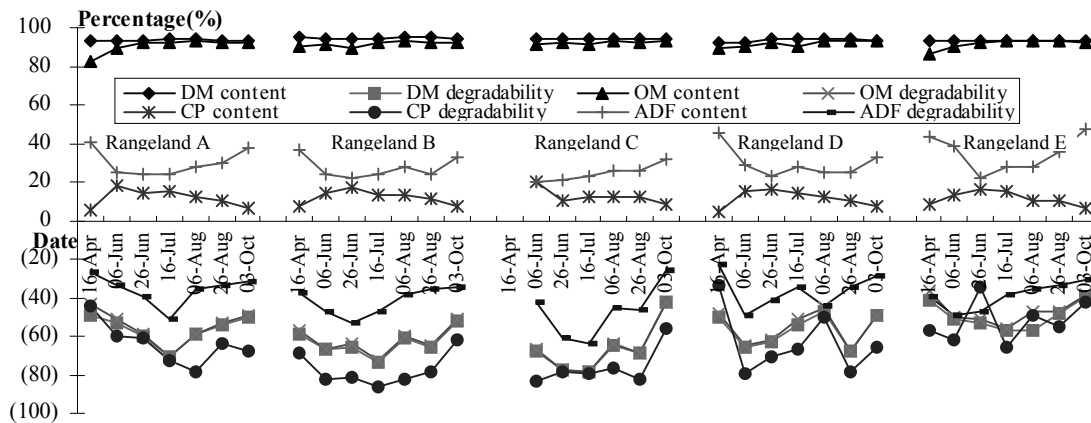


Figure 1 Dynamics in content and degradability of each nutrient in five rangelands

Table 1 Grazing capacity(heads/day/ha) of five natural rangelands at different time

Date	16 th April	6 th June	26 th June	16 th July	6 th August	26 th August	3 th October
Grassland A	8	58	125	265	338	261	163
Grassland B	13	67	117	190	272	232	207
Grassland C	\	45	87	150	210	290	193
Grassland D	33	37	80	192	245	165	100
Grassland E	38	63	80	106	184	130	100

Conclusions Grazing capacity of each rangeland was highest between July and August, but feed value decreased with growth. Based on intake and nutrition, grazing in summer and supplementary feeding in winter reasonable optimal for Yaks. On the plateau, the proposed ratio of natural to cultivated grasslands is 10:15.

References

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