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Youmin Gan  
*Sichuan Agricultural University, China*

Ying Qiu  
*Sichuan Agricultural University, China*

Yuanjia Luo  
*Sichuan Agricultural University, China*

Qin Wang  
*Sichuan Agricultural University, China*

Ling Fei  
*Sichuan Agricultural University, China*

*See next page for additional authors*

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**Presenter Information**

Youmin Gan, Ying Qiu, Yuanjia Luo, Qin Wang, Ling Fei, and Yanchun Wang

## Preliminary study on classified index system of grazing subalpine meadow in northwest Sichuan

GAN You-min, QIU Ying, LUO Yuan-Jia, WANG Qin, FEI Ling, WANG Yan-Chun

Department of Grassland Science, Sichuan Agricultural University, Ya'an, CHINA. E-mail: ganyoumin1954@163.com

**Key words:** subalpine meadow, grazing degradation, standing crop, organic matter content, index system of evaluation

**Introduction** Through studies in north-west of Sichuan, a study on an index system of degraded grassland was conducted which has a practical and instructional function for the ecological regeneration of grassland.

**Materials and methods** A study using method of spatial changes in place of temporal changes on grazing subalpine meadow was conducted in northwest of Sichuan Province. According to the standing crop, the theoretical grazing feed intake, the area and the time of grazing grassland, the grazing degree was determined as 4 levels: zero (CK), slight (SG), moderate (MG), and heavy (HG) in which the randomly-selected 1m<sup>2</sup> quadrat sampling was conducted for 5 times. Record and description of the community characteristic were conducted. Soil of 0 to 30 cm, area of which was 100 cm<sup>2</sup>, was taken using trench method from 5 randomly selected points. Every 10 cm deep accounted for a layer. A general soil analysis was conducted.

**Results** The correlation of total coverage of community between HG and MG was significant ( $P < 0.05$ ). But correlation between SG and MG was insignificant ( $P > 0.05$ ). Total coverage of community, richness and biodiversity were advisable as secondary indexes. There were 2~3 indicators plants for moderate and heavy degradation, such as *Potentilla anserina*, *Ranunculus tanguticus*, *Plantago depressa*. Standing crop in plant community and variety range of organic matter content of top 0~10 cm soil could be direct indexes. (Table 1)

**Table 1** The classified index system of degraded grassland of subalpine meadow.

Index (Primary indices)	Zero Degradation	Slight Degradation	Moderate Degradation	Heavy Degradation
PNP AG biomass (%)	Few <10%	A few 10~20%	Abundant 20~30%	Mostly PNP >30%
Ground Coverage	Few bare-ground	A few bared	Abundantly bared	VE disappears or bared
AG Biomass(kg/hm <sup>2</sup> )	>9000	6500~9000	4000~6500	<4000
0-10cm OM (g/kg)	>100	65~100	45~65	<45
Soil Surface	Hardly eroded	Seldom eroded	Rather eroded	Eroded

(AG= Above Ground; PNP= Poisonous and Noxious Plants; OM=Organic Matter; VE=Vegetation)

**Conclusions** In allusion to the degradation characteristics and degrees of subalpine meadow in North-west Sichuan, poisonous and noxious plants above-ground biomass, ground coverage, above-ground biomass, organic matter of 0-10cm soil and soil surface condition are advisable as primary indices in this area.

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