

## 沙地油蒿群落生产力动态的能量生态学研究\*

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**摘要** 从鄂尔多斯高原固定沙地油蒿群落光合作用所积累的能量动态变化研究入手,从能量生态学的角度探讨了油蒿群落生产力动态的形成机制,研究表明:群落地上生物量与能量现存量变化趋势相一致,均在9月初达全年最大值,油蒿光合强度在7、8月份较大,群落地上能量现存量增长率、群落生长速率及能量转化率均在这两个月中较高,即它们的变化趋势一致,植物光合作用积累能量的动态变化与群落生产力变化机制是密不可分的。

**关键词:** 生产力,动态,能量生态学,油蒿, 沙地

ENERGY ECOLOGICAL RESEARCH ON PRODUCTIVITY  
DYNAMICS OF *Artemisia ordosica* COMMUNITY IN SANDLANDLi Xiaobing<sup>1)</sup> Yang Jie<sup>2)</sup> Tian Qingsong<sup>3)</sup> Li Bo<sup>3)</sup><sup>1)</sup>The Institute of Resources Science, Beijing Normal University, Beijing, 100875, China<sup>2)</sup>The Natural Resources Institute of Inner Mongolia University, Huhhot 010021, China<sup>3)</sup>The Grassland Institute of The Chinese Academy of Agricultural Sciences, Huhhot 010010, China

**Abstract** The mechanism of dynamics of productivity of community from the angle of energy ecology was investigated. The results show that there were the same dynamics between biomass and standing energy quantity of community, and they all get the maximum at the beginning of September. The photosynthetic strength of *Artemisia ordosica* was bigger in July and August than in any other months, so were the increasing rate of standing energy, growth rate of biomass and the converting rate of standing energy of aboveground community were all bigger in July and August than in any other months. This suggests that the relationship between mechanism of productivity of dynamics and of energy dynamics stimulated in photosynthesis are very closer.

**Key words:** productivity, dynamics, energy ecology, *Artemisia ordosica*.

## 1 研究背景及本研究的目的

能量生态学方面的研究可以溯源于19世纪后半叶,1887年,Forbes S. A. 首次描述了美国伊利诺湖的

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内蒙古大学自然资源研究所的刘钟龄、杨持先生,内蒙古农牧学院的李德新先生对文章提出宝贵的意见和建议,深表谢意。

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