

研究论文

半干旱区封禁草地凋落物的积累与分解

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摘要 针对我国西部典型草原地带, 退化草地封禁后凋落物的积累、分解与水分变化过程, 进行了为期20a (1982~2002年) 的定位试验研究。结果表明: 本氏针茅、百里香、铁杆蒿和大针茅草地群落的凋落物积累与厚度的变化趋势, 拟合曲线符合指数方程, 无论在植物年生长的初期还是末期, 其相关性极为显著。随着气温的升高和降雨量的增加, 凋落物的分解速率加快, 本氏针茅和大针茅群落凋落物的分解率达到峰值需150d, 百里香群落需180d, 铁杆蒿群落需210d; 凋落物在积累与分解过程中, 具有吸水 and 保水的重要功能, 可截留大量天然降水, 促进土壤水分的缓慢入渗, 通常在植物生长的初期和末期, 凋落物在自然状态下饱和含水量, 本氏针茅群落为112.30%~124.02%; 百里香群落为116.61%~134.09%; 铁杆蒿群落为124.76%~144.32%。但草地适宜封禁年限为11~15a, 有利于草地自然更新和凋落物的积累。

关键词 [封禁草地](#); [凋落物](#); [积累量](#); [分解速率](#); [半干旱区](#)

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Accumulation and decomposition of litter in the semiarid enclosed grassland

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Abstract Based on a long-term (20 years) observation in typical grassland of China West, we analyzed the changing progress of litter accumulation, decomposition and variation of soil water in an enclosed grassland. The results showed that exponential equation was adapted to changing trends of accumulation quantity and thickness of litter in grassland communities of *Stipa bungeana*, *T. hymus mongolicus*, *Artemisia sacrorum* and *S. grandis*, the relativities of which were very distinct in the whole growth period. With air temperature increasing and rainfall enhancing, the litter decomposition speed accelerated. *S. bungeana* and *S. grandis* communities needed 150 days to reach to peak value, while *T. mongolicus* communities needed 180 days and *A. sacrorum* communities 210 days. There was a strong function of water absorption and retention, which could catch a lot of rainwater and keep soil water seeping in a slow speed. In the nature condition, Soil water saturated content in the growth prophase and anaphase of plant in the *S. bungeana*, *T. mongolicus* and *A. sacrorum* community were 112.30%~124.02%, 116.61%~134.09%, 124.76%~144.32%, respectively. It was favorable to grassland renewal and litter accumulation with 11-15 enclosed years appropriately.

Key words [enclosed](#) [grassland](#) [litter](#) [accumulation](#) [decomposition](#) [speed](#) [semiarid](#) [area](#)

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