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植物生产层

持久种子库在黄土高原植被恢复中的作用

赵凌平, 程积民, 王占彬

摘要: 通过对荒漠草原11个植被群落持久种子库特征及其与地上植被、地理位置关系的研究, 探讨了持久种子库在植被恢复重建中的作用。结果表明, 荒漠草原持久种子库以草本植物为主, 密度为31.5~482.3粒·m⁻², 群落类型和土壤分层对持久土壤种子库密度影响显著(P<0.05)。持久土壤种子库密度与纬度之间呈显著负相关, 而与经度的相关性不显著(P>0.05); 经纬度对持久种子库物种丰富度、多样性以及地上植被-土壤种子库的相似性影响不显著; 海拔对持久种子库密度影响不显著, 但对持久种子库的物种丰富度、多样性以及地上植被-土壤种子库的相似性影响显著, 随着海拔的升高, 物种丰富度、多样性以及地上植被-土壤种子库的相似性降低。持久种子库与地上植被的相似性较低, 依靠持久种子库恢复灌木层植被的潜能很小。

关键词: 持久种子库 植被恢复 荒漠草原 地理位置

Potential role of persistent soil seed bank in vegetation restoration of degraded desert grasslands

ZHAO Ling ping, CHENG Ji min, WANG Zhan bin

Abstract: In order to explore the potential role of persistent soil seed bank in the vegetation restoration and reconstruction, the characteristics of persistent soil seed bank, and its relationship with vegetation and geographic location were studied in 11 plots of the degraded desert grasslands. The result showed that soil seed bank was dominated by herbaceous plants. Soil seed bank density ranged from 31.5 to 482.3 seed · m⁻² in desert grasslands. Vegetation types and soil layer both had a significant effect on the density of persistent soil seed bank. Persistent seed bank density was negatively correlated with latitude, and had no significant correlation with longitude. Longitude and latitude had no significantly effect on the species richness and diversity of the persistent soil seed bank, and the similarity between the persistent soil seed bank and vegetation. Altitude had no significantly effect on the density of the persistent seed bank, but did affect the species richness and diversity of the persistent soil seed bank, and the similarity between the persistent soil seed bank and vegetation. With the increase of the altitude, the species richness and diversity of the persistent seed bank, and its similarity with vegetation decreased. Persistent soil seed bank and its similarity with vegetation were very low. It was unlikely that the potential of shrub layers restoration depending on soil seed bank.

Keywords: persistent soil seed bank vegetation restoration degraded desert grassland geographic location

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

作者Email:

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