

退化沙质草地植物群落物种多样性与土壤肥力的关系

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摘要:

研究了科尔沁退化沙质草地不同沙漠化阶段物种多样性的变化,以及不同植被类型物种多样性与土壤肥力的相互关系。结果表明,沙质草地沙生植被的多样性指数很低,从固定沙丘到流动沙丘,草本层Shannon Wiener多样性指数、Simpson指数和Margalef丰富度指数均降低;0~10 cm表层土壤各因子对多样性的影响不同,有机碳、全氮、全磷、有效氮与Shannon Wiener多样性指数、Simpson指数和Margalef丰富度指数达到显著($P < 0.05$)或极显著($P < 0.01$)相关关系,而Pielou均匀度指数与这几种土壤肥力指标均无显著相关关系。土壤速效磷和pH值与多样性指数也无显著相关关系。

关键词: 植被;土壤;分布特征;多样性

The relationship between plant species biodiversity and soil fertility in degraded sandy grassland

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Abstract:

Based on a series of field investigation into psammophytic vegetation in Horqin sandy land and laboratory analysis of soil properties, the relationship between biodiversity and soil fertility characteristics were analyzed. The results showed that plant diversity indices were low in Horqin sandy grassland. There was different effect of soil fertility (0~10 cm layer) on species diversity. Soil organic C, total N, total P, available N had significant or very significant positive correlation with Shannon Wiener, Simpson, Margalef diversity indices, but no significant relation with Pielou diversity index. Available P and pH had no significant correlation with diversity indices.

Keywords: vegetation soil distribution characteristics diversity

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