草业科学 2010, 27(203) 20-24 DOI: ISSN: 1001-0629 CN: 62-1069/S

前植物生产层

黄土高原3种建群种植物枯落物对苜蓿幼苗生长的化感作用

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摘要：

天然草地枯落物分解所产生的化感作用是一种独特的调控机制和竞争作用。研究比较了黄土高原农牧交错带天然草地3种建群种植物[长芒草(Stipa bungeana)、达乌里胡枝子(Lespedeza davurica)、茵陈蒿(Artemisia capillaris)]枯落物浸提液对苜蓿（Medicago sativa）幼苗生长指标（出苗率、株高、地上干质量、根干质量）的影响。结果表明：这3种建群种植物均会对苜蓿幼苗的生长产生影响，且会随着质量分数的不同呈现出不同的影响效应。其中长芒草枯落物浸提液及茵陈蒿枯落物浸提液分别对苜蓿幼苗的出苗率和株高的抑制效应最为强烈，且3种枯落物浸提液均会对苜蓿幼苗根干质量产生抑制效应，随着质量分数的降低，抑制效应呈现出增加趋势。

关键词： 黄土高原;枯落物;苜蓿幼苗;化感

The allelopathy effect of litter from three dominant species on alfalfa seedlings growth in the Loess Plateau

Abstract:

Allelopathy resulted from litter decomposition is a unique regulating mechanism and competitive effect to natural pasture. The aqueous extract from the litters of Stipa bungeana、Lespedeza davurica、and Artemisia capillaries growing in the transition region of Loess Plateau was used to investigate their effectiveness on alfalfa seedlings by measuring seed germination, plant height, shoot dry matter and root dry matter. The results of this study indicated that the three dominant plants affected the growth of alfalfa seedling, the extent of which changed accordingly with different mass fraction. The greatest inhibition effect on the seed germination and plant height of alfalfa was found in the aqueous extract from S.bungeana and A.capillaries, respectively. The inhibition effect on root dry matter of alfalfa seedlings are common in all three plants and would enhance with the reduction of mass fraction.

Keywords: Loess Plateau;litter;alfalfa seedlings;allelopathy

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

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