

研究报告

# 黄土丘陵区紫花苜蓿生长与土壤水分变化

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## 摘要

研究了黄土丘陵区紫花苜蓿生物量变化规律和土壤水分过耗与恢复特征.结果表明,紫花苜蓿在退耕地生长年限一般为10年,生长的高峰期为第4年~第5年,到第6年,由于土壤水分过耗严重,生物量开始逐年下降,草地开始衰败.紫花苜蓿茎叶生物量的垂直变化,在距地面0~35 cm之间,茎生物量远大于叶生物量,茎叶比为1.7: 1;在40 cm高时茎叶比相等,在45~90 cm之间叶生物量远大于茎生物量,叶茎比为1.42: 1.紫花苜蓿土壤干层在生长的前两年不甚明显,随着生长年限的延长,干层厚度不断增大,由第3年的110 cm扩大到第7年的260 cm,含水量仅为4.6%~6.2%,土壤水分严重亏缺.紫花苜蓿退化草地土壤水分的自然恢复过程一般需5年,且随着恢复年限的延长,土壤水分逐年提高.

关键词 [黄土丘陵区; 紫花苜蓿; 土壤水分](#)

分类号

## Alfalfa growth and its relation with soil water status in loess hilly and gully region

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### Abstract

This paper studied the dynamics of alfalfa growth and its relation with the excessive depletion and resumption of soil water in loess hilly and gully region.The results showed that alfalfa could grow in this region for 10 years,being most flourishing at the fourth and fifth year,but declined gradually because of the excessive depletion of soil water.From 0 to 35 cm above ground,the stem biomass was higher than the leaf biomass,and the ratio of stem to leaf was 1.7: 1; at 40 cm above ground,the biomass of stem and leaf was equal; and from 45 to 90 cm above ground,the leaf biomass was higher than the stem biomass,with the ratio of leaf to stem 1.42: 1.The soil dry layer was not distinct in first two years of alfalfa growth,but getting thicker with time,being from 110 cm in third year to 260 cm in seventh year,with a 4.6%~6.2% of soil water content.It took 5 years for the natural resumption of soil water in degraded alfalfa grassland,and soil water content was increased with time.

### Key words

[Loess hilly and gully region](#) [Alfalfa](#) [Soil water](#)

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