



干旱及增强UV-B胁迫对金荞麦生物量积累与分配的影响

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中文摘要:目的:研究干旱胁迫和增强UV-B辐射对金荞麦生物量积累与分配的影响以期作为金荞麦规范化种植提供科学理论依据。方法:采用盆栽试验的方法,测定金荞麦在不同程度干旱胁迫和UV-B辐射处理下各器官生物量,并计算生物量分配的情况。结果:在充足水分状况下,增强UV-B辐射显著降低了金荞麦各器官生物量积累,降低了金荞麦根生物量配置,提高了金荞麦茎生物量配置。在中度干旱胁迫下,增强的UV-B辐射提高了金荞麦根生物量积累和配置、茎生物量积累。在重度干旱胁迫下,增强的UV-B辐射提高了金荞麦根生物量积累,能使金荞麦茎生物量积累得到一定提高,金荞麦各器官生物量配置对增强UV-B辐射均不甚敏感。结论:增强的UV-B辐射对金荞麦生物量积累和分配的影响因水分状况的差异和器官的差异而不同。总体看来,基本证实了增强UV-B辐射能减轻干旱胁迫对金荞麦生物量积累的影响。

中文关键词:金荞麦 干旱胁迫 增强UV-B辐射 生物量积累与分配

Influences of enhanced UV-B radiation and drought stress on biomass accumulation and allocation of *Fagopyrum dibotrys*

Abstract:Objective : To study the influences of enhanced UV-B radiation and drought stress on the biomass accumulation and allocation of *Fagopyrum dibotrys*, and so as to provide a theoretical basis for the cultivation, the protection and use of *F. dibotrys*. Method : By experiment of potted plant, the biomass accumulation and allocation of *F. dibotrys* were measured under different drought stresses and UV-B radiations. Result : In conditions of adequate water, enhanced UV-B radiation significantly reduced biomass accumulation to root, biomass accumulation to leaves, total biomass accumulation and biomass allocation to root in *F. dibotrys*, while it could increase biomass allocation to stem. In conditions of moderate drought stress, enhanced UV-B radiation increased biomass accumulation to root, biomass accumulation to stem and biomass accumulation to root. In the conditions of severe drought stress, enhanced UV-B radiation increased biomass accumulation to root, it also could lead in a certain increase to biomass accumulation to stem. Biomass allocation to root, stem and leaves was not sensitive to enhanced UV-B radiation. Conclusion : The influences of enhanced UV-B radiation in simulation and drought stress on the biomass accumulation and allocation of *F. dibotrys* were determined by water conditions and different apparatus. Overall, we verified that enhanced UV-B radiation would reduce the influences of biomass accumulation of *F. dibotrys* by drought.

keywords:[Fagopyrum dibotrys](#) [drought stress](#) [enhanced UV-B radiation](#) [biomass accumulation and allocation](#)

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