

## 土壤水分对烤烟生长、物质分配和养分吸收的影响

余砾<sup>1</sup>, 高明<sup>1\*</sup>, 王子芳<sup>1</sup>, 徐畅<sup>2</sup>, 谢会川<sup>2</sup>, 李常军<sup>2</sup><sup>1</sup>西南大学资源环境学院, 重庆 400716; <sup>2</sup>中国烟草公司重庆市公司, 重庆400000

Effects of soil water content on growth, biomass partition and nutrient uptake of tobacco

YU Luo<sup>1</sup>, GAO Ming<sup>1\*</sup>, WANG Zi-fang<sup>1</sup>, XU Chang<sup>2</sup>, XIE Hui-chuan<sup>2</sup>, LI Chang-jun<sup>2\*</sup><sup>1</sup>College of Resources and Environment, Southwest Agricultural University, Chongqing 400716, China<sup>2</sup>Chongqing Tobacco Corporation, Chongqing 400000, China

摘要

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**摘要** 采用室内盆栽试验研究了不同土壤含水率对烤烟生长、物质分配和养分吸收的影响。结果表明, 烤烟株高随土壤含水率的增加而增高; 生物量随土壤含水率的降低而减小, 其减幅为叶>茎>根, 而根冠比则与土壤含水率成反比, 反映了烟草对土壤水分含量差异响应的整体特征。不同生育期叶绿素对土壤含水率的响应不同, 团棵期、旺长期和成熟期的土壤相对含水率分别为70%~75%、80%~85%和50%~55%时, 各处理中叶绿素含量最高。各处理烤烟对养分的吸收表现为对N、K吸收量显著大于P, 且当土壤含水率低于烤烟所需的适宜含水率时, 随着土壤含水率的降低, 烤烟茎、根的养分吸收量均有不同程度的升高, 但叶中却有所下降; 而各生育期根、茎、叶在土壤含水率过高的情况下, 对养分N、P、K的吸收均显著降低。

**关键词:** 水分含量 烤烟 生物量 养分吸收

**Abstract:** Effects of different soil water contents on the nutrient uptake and growth of flue-cured tobacco were studied under the pot cultivation. The results show that with the increase of soil moisture, the height and biomass of tobacco are increased, and the amplitude increments are leaf>stem>root, while the root to shoot ratios are inversely proportional to the water content, which reflects the characteristics of the responses of tobacco growing to various soil moisture contents. Chlorophyll has different responses to soil moisture content in different growing periods, and the most optimum soil moisture for Chlorophyll at different growing periods are 70%–75%, 80%–85% and 50%–55%, respectively. The uptakes of N and K are all significantly greater than that of P in the five treatments, with the decrease of soil water content, the nutrient uptakes of roots and stems are increased in varying degrees when the moisture content is less than the optimum level that required by tobacco, while the uptakes of leaves are declined. While in the case of excessive soil moisture content, the nutrients uptakes (N, P, K) of roots, stems and leaves are significantly reduced in each period.

**Keywords:** soil water content tobacco biomass nutrient uptake

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Corresponding Authors: 余砾 Email: yuluo1987@163.com

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