

## 丛枝菌根真菌对黄花蒿生长及药效成分的影响

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Effects of inoculating arbuscular mycorrhizal fungi on *Artemisia annua* growth and its officinal components.HUANG Jing-hua<sup>1</sup>, TAN Ju-fa<sup>1</sup>, JIE Hong-ke<sup>1</sup>, ZENG Ren-sen<sup>2</sup>

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**摘要** 通过盆栽接种试验, 研究丛枝菌根(AM)真菌对药用植物黄花蒿的生长、营养吸收和药效成分的影响。结果表明: 接种摩西球囊霉和地地球囊霉增加了黄花蒿对N、P、K的吸收, 及叶片叶绿素含量、净光合速率、气孔导度、蒸腾速率、茎粗和地上生物量, 尤其以接种摩西球囊霉的促进作用更强; 接种摩西球囊霉后植株茎、小枝和叶中的青蒿素含量分别提高了32.8%、15.2%和19.6%, 接种地地球囊霉后分别提高了26.5%、10.1%和14.9%; 接种摩西球囊霉和地地球囊霉的黄花蒿地上部的挥发油收油率比未接种的分别提高45.0%和25.0%, 而且挥发油成分发生了改变。

**关键词:** 丛枝菌根真菌 黄花蒿 次生代谢 青蒿素 挥发油

**Abstract:** A pot experiment was conducted to study the effects of inoculating arbuscular mycorrhizal (AM) fungi on the growth, nutrient uptake, and officinal components of *Artemisia annua*. Inoculation with AM fungi *Glomus mosseae* and *G. versiforme* improved the uptake of nitrogen, phosphorus, and potassium by *A. annua*, and increased the leaf chlorophyll content, net photosynthetic rate, stomatal conductance, and transpiration rate as well as the stem diameter and aboveground biomass of *A. annua*, with greater effects of inoculating *G. mosseae* than *G. versiforme*. After the colonization of *G. mosseae* and *G. versiforme*, the artemisinin content in *A. annua* stem, branch, and leaf was increased by 32.8%, 15.2%, and 19.6%, and 26.5%, 10.1%, and 14.9%, and the volatile oil content in leaf was increased by 45.0% and 25.0%, respectively, compared with the control. Furthermore, mycorrhizal colonization led to changes in volatile components.

**Key words:** arbuscular mycorrhizal (AM) fungi *Artemisia annua* secondary metabolism artemisinin volatile oil

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