

不同砧木对嫁接黄瓜蜡粉形成及硅吸收分配的影响

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Effects of Different Rootstocks on Bloom Formation and Absorption and Distribution of Silicon in Grafted Cucumber

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摘要 为探讨嫁接影响黄瓜果实表面蜡粉形成的机制, 选择对嫁接黄瓜果实表面蜡粉形成具有明显不同影响的砧木品种, 研究了嫁接黄瓜的植株生长和硅吸收分配特性, 结果表明: 少蜡粉砧木嫁接黄瓜, 结果期株高、叶片数和前期产量低于多蜡粉砧木和中蜡粉砧木嫁接的黄瓜, 但显著高于自根黄瓜; 黄瓜叶片中硅含量显著高于茎和根系; 少蜡粉砧木嫁接黄瓜叶片和茎中硅含量低于中蜡粉、多蜡粉砧木嫁接黄瓜和自根黄瓜; 根系中硅含量以‘云南黑籽南瓜’嫁接的黄瓜最高; 黄瓜果实发育过程中果实中硅含量呈先升高后降低的变化趋势, 位于果实同节位的叶片中硅含量逐渐减少; 少蜡粉砧木嫁接黄瓜果实中硅含量明显低于多蜡粉砧木、中蜡粉砧木嫁接黄瓜和自根黄瓜。不同砧木影响嫁接黄瓜果实表面蜡粉形成可能与硅的吸收分配特性有关。

关键词: 黄瓜 嫁接 砧木 蜡粉 硅

Abstract: To study the mechanism of grafting affecting bloom on fruit surface of cucumber, rootstocks with significant different effects on bloom formation were used to investigate the plant growth and silicon distribution of grafted cucumber, the results showed that at fruiting stage, the plant height, leaf number and early yield of cucumber grafted on light-bloom rootstocks were lower than those grafted on heavy-bloom or medium-bloom rootstocks, but higher than own-root cucumber. There was more silicon in leaves than in stem and roots of cucumber. The silicon levels in leaves and stem of cucumber grafted on light-bloom rootstocks were lower than those grafted on heavy-bloom or medium-bloom rootstocks, as well as own-root cucumber. The roots of cucumber grafted on ‘Yunnan Figleaf Gourd’ showed the highest silicon content. With the growth of fruits, the silicon content increased first, and then decreased, however, the silicon content in leaves at same node gradually reduced. The silicon contents in fruits of cucumber grafted on light-bloom rootstocks were obviously lower than those grafted on heavy-bloom and medium-bloom rootstocks, as well as own-root cucumber. Different bloom-type rootstocks affected the formation of fruit bloom, which was partly associated with the absorption and distribution of silicon.

Keywords: cucumber, grafting, rootstock, bloom, silicon

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