

不同营养液浓度对温室盆栽黄瓜产量与品质的影响

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Effects of different nutrient solution contents on yield and quality of greenhouse potted cucumber

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摘要

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摘要 营养液浓度与供水方式会影响温室黄瓜的产量与品质。本文通过盆栽试验,以山崎黄瓜专用营养液配方标准浓度1S为基准,研究了负水头供水控水盆栽装置供水条件下1/2S、3/4S、1S、1S 4种营养液浓度以及常规浇灌1S(CK)营养液浓度对温室盆栽基质栽培黄瓜产量与品质的影响。结果表明,地上部干重和产量与营养液浓度成显著正相关关系;1S处理产量与地上部干重显著大于1S(CK)处理,但营养液生产效率差异不显著;黄瓜整体品质随生育进程而提高,采收初期果实品质整体指标各处理差异较大,1S处理的较高;采收中期1S与1S处理的较高,而采收末期各处理整体品质差异较小,1/2S与1S(CK)处理的相对较高;其中1S(CK)处理各采收时期果实硝酸盐含量明显高于1S处理,而其它各指标两者无显著差异。负水头供水控水盆栽装置供水方式与1S营养液浓度处理是一种较好的供水方式与供水浓度。同时,适当提高黄瓜生育前期与降低生育末期营养液浓度能提高黄瓜的整体品质。

关键词: 营养液 黄瓜 负水头控水 产量 品质

Abstract: The effects of different concentrations and ways of supplying nutrient solution on yield and quality of greenhouse cucumber (*Cucumis sativus* L.) were investigated in a greenhouse potted cucumber experiment. Four levels of nutrient solution concentrations were applied at 1/2S, 3/4 S, 1S and 1S (1S Yamazaki cucumber nutrient solution concentration as the standard concentration) with negative pressure water supplying and controlling pot device, and the 1S (CK) treatment with traditional irrigation method were used as CK. The results show that the shoot dry weight and yield are positively and significantly correlated with the nutrient solution concentrations. Compared with the 1S (CK) treatment, the shoot dry weight and yield are significantly increased under the 1S treatment, while nutrient solution use efficiency is not significantly affected by different concentrations and ways of supplying nutrient solution. The general qualities of cucumber are improved with the growing process. At the earlier stage, the qualities are significantly affected by the concentration of nutrient solution, and the quality under the 1S treatment is much better. At the middle stage, the fruit qualities under the 1S and 1S treatments are better than other treatments. At the terminal stage, the quality is no significantly affected by the concentration of nutrient solution, and the qualities under the 1/2S and 1S (CK) treatments are better. Thus the 1S nutrient solution with the way of negative pressure water supplying and controlling pot device is an efficient method for increasing yield and improving quality of greenhouse potted cucumber. Also increasing the nutrient solution concentration at the earlier stage and decreasing the nutrient solution concentration at the terminal stage can improve the general quality of greenhouse cucumber.

Keywords: nutrient solution cucumber negative pressure water control yield quality

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