

果袋颜色对番茄果实微环境及产量和品质的影响

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Effects of fruit bag color on the microenvironment, yield and quality of tomato fruits.

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摘要
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摘要
为确定果袋颜色的生态学和生物学效应, 以JYK番茄为试材, 采用不同颜色果袋进行套袋处理, 以不套袋为对照, 研究了不同颜色果袋内微环境的变化及其对果实生长发育、产量和品质的影响. 结果表明: 不同颜色果袋均具有降低光强、提高温度、增加湿度的作用, 并均可促进番茄果实膨大, 增加单果质量, 促进果实提早成熟. 其中, 以黑色果袋增温促长效果最好, 其果实成熟期较对照提早10 d, 单果质量增加27.2%; 无色、蓝色及红色果袋处理的果实成熟期分别较对照提早8、3和2 d, 单果质量分别增加11.8%、6.4%和4.8%. 此外, 套袋还可促进果实着色, 显著提高番茄红素含量, 但所有处理的果实硬度及可溶性固形物、可溶性糖、可溶性蛋白含量均低于对照. 表明番茄套袋虽增加了产量, 但降低了其营养品质.

关键词: 番茄 果实套袋 果袋颜色 产量 品质

Abstract:

In order to clarify the ecological and biological effects of fruit bagging, tomato variety JYK was taken as the test material to study the changes of the microenvironment in different color fruit bags and the effects of these changes on the fruit development, yield and quality, with the treatment without fruit bagging as the control (CK). The results showed that bagging with different color fruit bags had positive effects in decreasing the light intensity of the microenvironment and increasing its temperature and humidity, and thus, increased the single fruit mass and promoted the harvest stage advanced. Black bag had the best effects in increasing microenvironment temperature and fruit mass, with the single fruit mass increased by 27.2% and the harvest period shortened by 10 days, compared with CK. The fruit maturation period in colorless bag, blue bag and red bag was shortened by 8, 3 and 2 days, and the single mass was increased by 11.8%, 6.4% and 4.8%, respectively. Moreover, the coloring and lycopene content of the fruits with different color bags bagging were improved, but the fruit rigidity and fruit soluble solid, soluble protein, and soluble sugar contents were decreased. Therefore, bagging with different color bags could improve the yield of tomato fruits, but decrease the fruit nutritional quality.

Key words: tomato fruit bagging fruit bag color yield quality.

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