

## 不同氮素水平对甜瓜芳香物质和营养品质的影响

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## Effects of nitrogen fertilization on aromatic compounds and nutritional quality of melon fruits

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**摘要** 以“京玉五号”为试材, 利用GC-MS测定法, 在溶液培养条件下研究了不同氮素供应水平对甜瓜芳香物质和营养品质的影响。结果表明, 在不同氮素水平条件下, 甜瓜的芳香物质的种类和含量差异显著。乙酸-2-甲基丙基酯、乙酸丁酯和2-甲基丁酸乙酯等特征芳香物质的含量随着氮素水平的升高先升高后下降, 在100%的氮素处理水平下, 甜瓜的特征芳香物质含量相对较高。随着氮素水平的升高, 甜瓜的折光糖含量、Vc、可溶性糖和糖酸比等营养品质表现下降的趋势。研究结果表明, 在本试验条件下, 200.72~401.44 mg/L氮素是甜瓜优质高产栽培适宜的氮素水平。

**关键词:** 甜瓜 氮素 芳香物质 营养品质

**Abstract:** A hydroponic experiment was carried out to study the effects of nitrogen fertilization on the aromatic compounds and nutritional quality of the Jingyu Wu hao melon fruits. The results show that under the different nitrogen levels, the varieties and contents of the melon's aromatic compounds are significantly different. The contents of the characteristic aromatic compounds, such as Acetic acid 2-methylpropyl ester, Acetic acid butyl ester and 2-methyl-butanoic acid ethyl ester, are increased at first and then decreased under the increase of the nitrogen application levels. Under the 100% nitrogen level, the contents of the characteristic aromatic compounds are relatively high. The sugar refraction, Vc, soluble sugar and sugar-acid ratio of the melon are decreased under the increase of the nitrogen application levels. In conclusion, 200.72–401.44 mg/L N are the proper levels of nitrogen fertilization for the high quality and high yield cultivation of melon.

**Keywords:** melon nitrogen aromatic compound nutritional quality

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