

**Title** Effect of nutrient solution concentration on quality of radish (*Raphanus sativus* L.) grown on a floating system

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### **Abstract**

The management of mineral nutrition is a key pre-harvest factor that determines the product quality of radish (*Raphanus sativus* L). The floating system represents an important tool because it permits a precise control of plant nutrition. The objective of this work was to assess the effect of three nutrient solution concentrations (100%, 75% and 50%) on total polyphenols, anthocyanins, glucosinolates and chemical characterization of two radish genotypes ('Girox' and 'Suprella') grown in a floating system during three consecutive growing cycles. Anthocyanin and glucosinolate compounds were enhanced most in radishes grown on the 75% and 50% concentration solutions during the spring and summer growing seasons, respectively. Furthermore the 'Suprella' cultivar of radish has generally higher bioactive compound content of total polyphenols, anthocyanins and glucosinolates than 'Girox'. The NMR analysis suggested the difference between the treatments for nutrient solution concentration: the major <sup>1</sup>H-NMR signal originated from sugars and organic acid molecule structures.