

Figure 5. Effects of N and K level on vitamin C content of spinach seedlings.

N and K strongly influences both yield and the nutritional quality of spinach. An optimal N and K level and ratio, in this case 8 mmol N/L and 4 mmol K/L, were essential for spinach to achieve good biomass yields while minimizing tissue NO_3^- and NO_2^- . It is apparent that plant oxalate and vitamin C can be positively affected through optimized N and K nutrition...and in this case, lower leaf blade oxalate concentration was associated with higher vitamin C concentration. Thus, the goal of producing high quality spinach can be consistent with a high yield strategy. **BC**

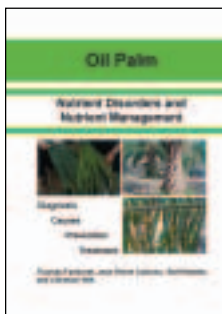
comparisons across means with the same N input level also produced three distinct responses. Nonetheless, vitamin C concentration of spinach tissue does seem to depend on N and K supply, and conditions of excess nutrient supply may result in a dilution effect.

Conclusions

This research affirms that a balanced supply of

N and K strongly influences both yield and the nutritional quality of spinach. An optimal N and K level and ratio, in this case 8 mmol N/L and 4 mmol K/L, were essential for spinach to achieve good biomass yields while minimizing tissue NO_3^- and NO_2^- . It is apparent that plant oxalate and vitamin C can be positively affected through optimized N and K nutrition...and in this case, lower leaf blade oxalate concentration was associated with higher vitamin C concentration. Thus, the goal of producing high quality spinach can be consistent with a high yield strategy. **BC**

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Oil Palm: Nutrient Disorders and Nutrient Management—Pocket Guide

A new edition of the pocket-sized guide book for identifying nutrient deficiencies in oil palm is now available. The full-color publication has been completely revised and now includes an extensive color annex with diagnostic keys and photos for identifying deficiencies in oil palm and legume cover plants.

Authors of the new publication are Dr. T. Fairhurst, Dr. J.P. Caliman, Dr. R. Härdter, and Dr. Christian Witt, Director of the PPI/PPIC-IPI Southeast Asia Program (SEAP). It is based on Volume 7 of the Oil Palm Series published by SEAP.

Using a new format, the content is presented in two sections—the main text has been extensively revised, while the new color annex section provides a quick summary of the main text. Color coded-tabs enable fast cross-referencing between the two sections. The main text section contains 67 pages, including information on field monitoring, nutrient deficiency symptoms, nutrient disorders, and reference tables. The color annex contains 51 pages with diagnostic keys and color photographs for identifying nutrient deficiencies, diseases and disorders, and other important field management practices.

The price for the publication is US\$9.00 (Singapore\$15.00). For more information, contact: PPI/PPIC-IPI Southeast Asia Program, 126 Watten Estate Road, Singapore 287599; fax +65 6467 0416 (Attn: Doris Tan). Additional details and an order form are also available at the website: >www.ppi-ppic-ipi.org<. **BC**