

**EFFECT OF BRASSINOLIDE ON THE CITRUS
HUANGLONGBING DISEASE, YIELD AND FRUIT QUALITY
OF ‘SOAN’ ORANGE (*Citrus sinensis* L. Osbeck.) GROWN IN
PHUNG HIEP DISTRICT, HAU GIANG PROVINCE**

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Summary

This study was aimed to determine the effect of Brassinolide (BR) on Huanglongbing disease, fruit yield and quality of Soan orange in Phung Hiep district, Hau Giang province. An experiment was conducted from October 2017 to October 2018. There were 5 treatments including BR concentrations, i.e. 0.05 μM ; 0.10 μM ; 0.15 μM ; positive control ($\text{ZnSO}_4 + \text{MnSO}_4$, 0.5%); and negative control treatment (water). The experiment was arranged in a completely randomized design with six replications, one tree for each replicate. BR treatments were applied every two weeks until fruits were harvested (12 months). The presence of *Candidatus liberibacter asiaticus*, before and after the completion of the experiment was determined by PCR using specific primers and Iodine-starch reaction quantifying starch content in leaves. The results showed that spraying BR at 0.10 and 0.15 μM periodically twice a week for 12 months was effective on observed red parameters relating to disease assessment, the presence of causal bacteria, improving flowering, yield and fruit quality of Soan orange. Particularly, spraying BR at 0.15 μM resulted in a significant reduction on both rate of disease leaf on branches and disease index only after two months of treatment, and the lowest levels of the two parameters at the 8th month after treatment (MAT). In addition, BR 0.15 μM treatment also reduced the presence of the causal agent to an undetectable level by PCR at the 8th MAT, as well as improving flowering, yield and fruit quality of Soan orange.

Keywords: *Brassinolide, Huanglongbing, ‘Soan’ orange, starch content.*