

Agronomic biofortification of Calcium in Pak choy (*Brassica rapa* subsp. *chinensis*) via hydroponic nutrient film technique

Title	Agronomic biofortification of Calcium in Pak choy (<i>Brassica rapa</i> subsp. <i>chinensis</i>) via hydroponic nutrient film technique
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Abstract	Pak choy is rich in calcium, magnesium, phosphorus, iron, and vitamin K, all essential for health. Pak choy requires a proper balance of nutrients for optimal growth. In a hydroponic system, any imbalance in nutrient levels can negatively impact plant growth and reduce the nutritional value stored in the tissues. Selecting suitable varieties and providing appropriate calcium treatment can help increase calcium content and enhance productivity. This study aims to determine the effect of calcium concentration on growth, yield, and Ca content and the most responsive varieties to increased calcium concentration. The research design used was a Split Plot Design with two factors, namely calcium nitrate concentration (k) as the main plot consisting of k0 = without addition of Ca(NO₃)₂, k1 = addition of 300 mg/L Ca(NO₃)₂, k2 = addition of 600 mg/L Ca(NO₃)₂, k3 = addition of 900 mg/L Ca(NO₃)₂, and k4 = addition of 1200 mg/L Ca(NO₃)₂. Varieties (v) as subplots consist of v1 = Masbro, v2 = Nauli F1, and v3 = Flamingo. The results showed that the Nauli F1 variety had the best effect on the number of leaves, growth rate index, and fresh weight of shoots. Adding 900 mg/L of calcium nitrate had the best impact on plant growth, while adding 1200 mg/L of calcium nitrate caused plant poisoning. The Masbro variety was responsive to Ca biofortification.
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