

**APPLICATION OF VARIOUS CONCENTRATIONS OF AB MIX  
NUTRIENTS AND GA3 ON THE GROWTH AND YIELD OF ROMAINE  
LETTUCE (*Lactuca sativa* L. var *Longifolia*) IN THE NFT (*NUTRIENT  
FILM TECHNIQUE*) HYDROPONIC SYSTEM**

By : Winda Warahmah Sigalingging  
Supervised by : Ari Wijayani

**ABSTRACT**

The increasing demand for lettuce is not matched by high production levels, which is attributed to the decline in agricultural land. Therefore, effective cultivation techniques are needed to enhance romaine lettuce production. This study aims to determine the optimal concentrations of AB Mix and GA3 for the growth and yield of romaine lettuce. The research was conducted at the Maju Makmur Hydroponic Garden. This field experiment employed a Split Plot Design, with the main plots consisting of AB Mix nutrient concentrations of 700, 1000, and 1300 ppm, while the subplots included gibberellin concentrations of 50, 100, and 150 ppm. The data were analyzed using analysis of variance (ANOVA) at the 5% level, followed by Duncan's Multiple Range Test (DMRT) at the 5% level. The results indicated an interaction between the AB Mix 1300 ppm and GA3 50,100 and 150 ppm on plant height at 28 DAP, AB Mix 1300 ppm and GA3 100 ppm on leaf number at 21 DAP, AB Mix 1300 ppm and GA3 50,100 ppm on leaf number at 28 DAP, and AB Mix 1300 ppm and GA3 100 ppm the fresh weight of the plant canopy. The 1300 ppm AB Mix concentration yielded the best results for plant height at 21 DAP, and leaf counts at 21, 28, and 35 DAP, root volume and stem hardness. The 100 ppm GA3 concentration was optimal for leaf counts at 28, 35 DAP and fresh weight.

**Keywords :** romaine lettuce, AB Mix nutrient, GA3, NFT hydroponics system.