

***The Effort to Increase the Growth and Production of Peanuts  
in Alley Cropping System by Applying Plant  
Standing and Giving of P Fertilizer  
Supervised by: Jumiatus, S.P., M.Si.***

**Cici Nia Dela**

Food Crop Production of Technology Study Program  
Department of Agricultural Production

***ABSTRACT***

*Peanuts in Indonesia experienced a decrease in production in 2019 by 8% to the total result of 420,009 tons, while the demand reached 590,087 tons. Therefore, it is necessary to extend efforts by applying the alley cropping system and intensification through spaced and applied P fertilizer. The research aimed to study the growth and production of peanuts against spacing and application of P fertilizer in the alley cropping system. The research was conducted from August to December 2022 at the Jember State Polytechnic. The experiment was designed using a factorial randomized block design with two factors and three replications. The plant spacing factor includes 3 levels, namely 40 cm x 30 cm, 40 cm x 15 cm, and 30 cm x 15 cm, while the P fertilizer dose factor includes 3 levels, namely 50 kg.ha<sup>-1</sup>, 100 kg.ha<sup>-1</sup>, and 150 kg.ha<sup>-1</sup>. Based on the results of this research, there was an interaction between the treatment spacing of 40 cm x 30 cm and the dose of P fertilizer 50 kg.ha<sup>-1</sup> significantly different in the number of fruitful pods per plant. The treatment spacing of 40 cm x 15 cm was significantly different in plant height, root length, pod weight, and dry seeds per plot. Meanwhile, the dosage of P fertilizer was not significantly different in all observed variables. Thus, significantly increasing the population at a spacing of 40 cm x 15 cm was able to optimize the growth and production of peanuts in the alley cropping system.*

***Keywords:*** *peanuts, alley cropping, spacing, p fertilizer*