

Effect Of Liquid Organic Fertilizer (POC) From Coffee Husk Waste On The Germination Of Arabica Coffee (*Coffea arabica* L.) Gayo 3 Ateng Super Variety And Ateng Janda Arabica Coffee Type

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ABSTRACT

Gayo Arabica coffee is a leading commodity of Aceh Province; however, its productivity remains low, partly due to the slow germination of seeds caused by physical dormancy resulting from a hard, water-impermeable seed coat. This study aimed to determine the effect of the soaking duration of Liquid Organic Fertilizer (LOF) derived from coffee husk waste on the germination of Arabica coffee seeds of the Gayo 3 Ateng Super variety and the Ateng Janda Arabica coffee type. The study employed a Completely Randomized Design with a two-factor factorial arrangement, namely Variety and LOF Soaking Duration (control, 12, 24, and 36 hours), with three replications. Data for all parameters were analyzed using ANOVA and followed by the Least Significant Difference (LSD) test at the 5% level whenever a significant effect was found. The results showed that the Variety factor had a significant effect on initial sprout emergence, sprout growth rate, early seedling height, and root length. Ateng Super germinated and elongated faster, while Ateng Janda showed superior initial sprout emergence, early seedling height, and root length. The LOF Soaking Duration factor had no significant effect on any of the parameters tested, while the interaction between the two factors was significant only for sprout growth rate at the first observation. Fresh weight and germination percentage were not significantly affected by either factor. Overall, germination performance and early growth of Arabica coffee seeds were more strongly determined by the genetic characteristics of the variety than by the soaking duration of coffee husk waste LOF.

Keywords: Arabica Coffee; Coffee Pulp Waste; Liquid Organic Fertilizer; Seed Germination; Soaking Duration; Variety.