Pengaruh Pemberian Dosis Pupuk Kandang Sapi dan Pupuk Hayati Mikoriza Terhadap Pertumbuhan dan Produksi Benih Tanaman Jagung Hibrida *(Effect of Dosage of Cow Manure and Mycorrhizal Biofertilizer on Growth and Seed Production of Hybrid Corn Plants)* Supervisor : Ir. Hari Prasetyo, M.P (Dosen Pembimbing) dan Moh. Ashari, S.P (Pembimbing Lapang).

Irma Agustina
Study Program of Seed Production Technique
Departement of Agricultural Production
Program Studi Teknik Produksi Benih
Jurusan Produksi Pertanian

ABSTRACT

This study aims to determine the effect of dose of cow manure and dose of mycorrhizal biological fertilizer on the growth and production of hybrid corn seeds. This research was conducted in the seed production area of PT. Jafran Indonesia for 4 months starting from October 2021 - January 2022. This research was carried out using a Factorial Randomized Block Design (RAK) consisting of two factors. The first factor consists of 3 levels and the second factor consists of 3 levels which are repeated 3 times. The first factor is the dose of cow manure (K) consisting of 3 levels including: K0 = No Cow Manure, K1 = 30 tons/ha equivalent to 360 gr/plant, and K2 = 50 tons/ha equivalent to 600 gr/ plant. The second factor is the dosage of mycorrhizal biofertilizer (M) consisting of 3 levels including: M0 = No Mycorrhizal Fertilizer, M1 = 20 g/plant, and M2 = 30 g/plant. The data obtained from this study were analyzed using analysis of variance ANOVA and further tested using DMRT level 5%. Based on this study, it was concluded that the treatment of giving Cow Manure (K) had a very significant effect (**) on the parameters of plant height at 32 DAP in K1 treatment with the highest mean of 254.2 cm and plant height at 42 DAP on K1 parameters. with the highest mean of 356.75 cm, the parameter diameter of stems aged 32 DAP in treatment K1 with the highest average of 29.11 mm and stem diameters aged 42 DAP in treatment K2 with the highest average of 50.67 mm, root length parameters in treatment K1 with the highest average of 103.87 cm, the

parameter of cob length in treatment K1 with the highest average of 46.73 cm, and finally the parameter of dry cob weight with the highest average of 324.48 g in treatment K1 namely the application of cow manure 30 tons/ha (360 grams/plant). However, the treatment of cow manure had no significant effect (ns) on the parameters of the number of cobs, diameter of the ear, number of seeds per ear, number of seeds per ear, weight of 1000 seeds, and potential yield of seed per hectare.

The treatment of giving Mycorrhizal Fertilizer (M) gave a very significant effect (**) on the parameters of plant height at 32 DAP with the highest mean of 237.59 cm in M2 treatment and plant height at 42 DAP with the highest mean of 354.42 in M2 treatment, diameter stems aged 32 DAP with the highest mean of 29.42 mm in the M2 treatment and the diameter of the stems aged 42 DAP with the highest average of 48.59 mm in the M2 treatment, the parameter of root length with the highest mean of 106.10 cm in the treatment of M2, and the length of the cob with the the highest mean of 44.30 in the M0 treatment. However, the treatment with Mycorrhizal Fertilizer had no significant effect (ns) on the parameters of the number of cobs, diameter of the ear, dry weight of the ear, number of seeds per ear, number of seeds per ear, weight of 1000 seeds and potential yield of seed per hectare.

The interaction between cow manure and mycorrhizal biofertilizer gave a significant (*) effect on the parameters of stem diameter at 32 DAP with the highest mean of 10.38 mm at K2M2 interaction and stem diameter at 42 DAP with the highest mean of 17.47 mm at K2M2 interaction. and gave a very significant effect (**) on the parameters of plant height at 32 DAP with the highest average of 85.87 cm on K1M2 interaction and on plant height of 42 DAP with the highest average of 126.31 cm on K1M2 interaction, root length with the highest average of 39 .06 cm in the K1M2 interaction, the diameter of the ear with the highest average of 45.32 mm in the K1M1 interaction, and the length of the ear with the highest average of 16.46 cm in the K1M1 interaction. However, the interaction between cow manure and mycorrhizal biofertilizers had no significant effect (ns) on the parameters of number of cobs, dry weight of cobs, number of seeds per ear,

number of seeds per ear, weight of 1000 seeds and potential seed production per hectare.