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## **Effects of Food Waste Mixed Organic Fertilizer Treatment on Growth and Yield of *Capsicum annuum***

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### **[Abstract]**

The global population is increasing every year, and the amount of food waste is also increasing. Direct landfilling of food waste has been prohibited since 2005, and in accordance with the London Convention in 2013, the discharge of livestock manure, sewage sludge, and food waste into the sea is prohibited. In the case of incineration to treat the discharged food waste, the heat point is lowered due to the moisture in the food waste itself, so fuel must be added. Therefore, this study was conducted to get basic data for setting the limit of application by investigating the growth and yield of crops after treating food waste dry powder mixed fertilizer (MF) on red pepper. In the experiment, continuous cultivation was carried out for two years in 2021 (1st year) and 2022 (2nd year). The treatment groups were set as Not Treatment (NT), Chemical Fertilizer (CF), Mixed Fertilizer (MF), Mixed Fertilizer×2 (MF×2). After harvest, crop growth and yield were investigated. As a result of the 1st years of growth survey, CF, MF, MF×2 show significant difference in shoot length compared to NT. About fresh weight and dry weight, CF show significant difference compared to NT. The 2nd years of growth survey, the shoot and root length, fresh weight did not show significant difference with NT. In case of dry weight, MF is significant increased compared to NT. As a result of the yield survey of the 1st year, all treatment groups did not show a significance in yield compared to the NT. In case of 2nd year, all treatment groups show significantly increased value compared to NT. The yield of MF was highest among the treatment groups. In the future, it is thought that it is necessary to quantitatively evaluate the effect of food waste dry powder mixed fertilizer through additional experiments and continuous cultivation, and to establish an appropriate amount of use and establishment of a manual based on this.

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