

ABSTRACT

A research entitling “utilization ash bunches empty oil palm as substitute KCl fertilizer on growth and result waxy corn (Zea mas Certainia) on regosol soil” was conducted in the Green House, Faculty of Agriculture, Universitas Muhammadiyah Yogyakarta from December 2018 to March 2019. The research purpose to determine the effectiveness and to get the exact dose of oil palm empty fruit bunch ash as a substitute for K fertilizer for the growth and yield of waxy corn or glutinous corn (Zea mays var. Ceratina). This research was carried out by the experimental method single factor in polybags arranged in Complete Random Environmental Design consisting of 5 treatments, namely (P1) 100% K from KCl fertilizer, (P2) 75% K from KCl + 25% K fertilizer from oil palm empty fruit bunch ash, (P3) 50% K from KCl + 50% K fertilizer from oil palm empty fruit bunch ash, (P4) 25% K from KCl + 75% K fertilizer from oil palm empty fruit bunch ash, (P5) 100% K from oil palm empty fruit bunch ash. Parameters observed included plant height, number of leaves, leaf wide, root length, fresh root weight, dried root weight, fresh plant weight, dried plant weight, cob height, cob diameter, cob length, number of row for each glob, husked cob weight, without husk cob weight. The results showed all balance treatment of oil palm empty bunch ash substitute element K and a balance treatment of 25% K from KCl + 75% K fertilizer from ATKKS is the right dose, having a globus weight of 231.95 g, higher than other treatment.

Keywords: effectiveness, substitute, the right dose.