ABSTRACT

Responses of Radish (*Raphanus sativus* L.) cultivar Crimson Giant Against Zeolites and KNO_3 Fertilizer Applications

By

Mitra Jani Pramuda

Radish (*Raphanus sativus* L.) is a bulbous vegetable, has a rounded shape to long, and is the main part that can be consumed. Radish has a variety of efficacy and can be processed into variety of dishes. Zeolites can be used as soil amendmend, as a growing medium of plants, and can be mixed with fertilizer which aims to efficient of fertilizers. KNO_3 fertilizer has the benefit of that is, to increase plant resistance to disease attack, can reduce the rot the tuber, free chlorine (Cl) so as not to cause toxicity in the soil acidity.

This research aims to (1) know the difference of growth and yield of radish, between a given zeolite, and without a given zeolite, (2) know KNO_3 fertilizer dose which produces the best response of radish plant, (3) know the different responses to granting of zeolite on radish plants to level doses of different KNO_3 fertilizer. This research was conducted on farm in Perumnas Kemiling, Beringin Raya Village, Kemiling District, Province of Lampung. This research was conducted in July – August 2010.

This research was arranged using (1) arranged in a factorial design of treatment (2x5). The first factor was without giving zeolite (Z_0) and giving zeolite (Z_1). The second factor was the dosages of KNO_3 fertilizer which consists of 5 levels :

0 g (K_0), 20 g (K_1), 40 g (K_2), 60 g (K_3), 80 g (K_4), (2) the experimental design applied to experimental plots in a completely randomized design (RKTS) with three replications (3) each plot experiment samples were taken five plants. The homogemety of variances was tested with Bartlett test, the aditivity of data were tested with Tukey test. Data were analyzed using analysis of variance followed by Orthogonal Polynomial test. All test conducted at significance level of 5% or 1%.

Result of this research indicated that (1) application of zeolite showed a better response to the growth and yield of radish on variable of length bulb than without use of zeolite, (2) application of KNO_3 showed a maximum production response through the variable of length of radish tubers with maximum points at 44.87 g/m^2 dose of 4.91 cm and then decrease the level of growth and crop production along with increasing dose of potassium (3) there was interaction between the zeolite and KNO_3 on crop production variable of as plot at doses 20 g/m^2 in the amount of 343.33 g (32.44%), diameter of the bulb at a dose of 60 g/m^2 KNO_3 0.55 cm(14.06%), moist weight leaves KNO_3 at 60 g/m^2 dose of 13.91 g (43.04%)