EFFECT OF SLOW RELEASE NITROGEN FERTILIZER ADDITON TO NPK FERTILIZATION ON GROWTH OF CAULIFLOWER

Rugayah[1, a)], Lilis Hermida[2, b)], YohannesCahyaGinting[1], Joni Agustian[2],

Afrida Suryani[1]

[1] *Department of Agrotechnology, Faculty of Agriculture, University of Lampung*

[2] *Department of Chemical Engineering, Faculty of Engineering, University of Lampung*

Prof. Dr. SoemantriBrojonegoro No.1 Bandar Lampung 35145

[a)]Corresponding author: rugayah_unila@yahoo.co.id
[b)] lilis.hermida@eng.unila.ac.id

Abstract. Urea is fertilizer nitrogen source that is high water solubility, so its not efficient. In this study, three kinds of slow release nitrogen (SRN) fertilizers were evaluated for cauliflower growth. These fertilizer is the standard fertilization, while single N is addition. Hence, in the discussion should focus on the effect of such nitrogen addition. The experiment was carried out in a greenhouse, using randimized block design in 5x2 factorial scheme with three replicates. Treatments corresponded to five kinds of nitrogen sources i.e : without fertilizer (A0), Urea (A1), SRN-Bentonite (A2), SRN-BBA (A3) and SRN-Mesopore (A4) and two treatments of NPK: without NPK (B0) and NPK addition (B1). The dosage of fertilizer is equivalent to Urea 200 kg.ha-1. Data obtained were identified using analysis of variance and followed by Orthogonal Contrast at 5% level. It was found that the use of fertilizer nitrogen significantly increased the growth of cauliflower compared to without fertilizer. There is any difference between urea and SRN application on the number of leaves and curd weight. The growth of cauliflower fertilized by the SRN's with the NPK addition was better than that without NPK, especially the number of leaves, leaf length, leaf width, root dry weight, curd diameter, and curd weight. The results also showed that the effects of SRN-types were no significant differences on the cauliflower growth but on the basis of variable observed, SRN-Mesopore agronomically was potential to be developed compared to SRN-Bentonite and SRN-BBA.

Keywords: nitrogen, addition of NPK, fertilizer, cauliflower