

P299

## The Growth phase and yield difference of Kenaf(*Hibiscus cannabinus* L.) in reclaimed land according to the source and physical types of organic materials

Chan Ho Kang<sup>1)\*</sup>, In Sok Lee, Young Jin Yoo, Sang Young Seo, Kyu Hwan Choi, Ki Kwon Lee,  
Young Eun Na

<sup>1)</sup> Jeonllabukdo Agricultural Research & Extension Services Iksan 54968, Korea

### ABSTRACT

To improve the reclaimed land soil, we put organic materials (Chopped kenaf, decomposed rice hull, rice straw, pellet type manure compost) into reclaimed land for 3,000 kg per 10a. As a result, EC of reclaimed soil was lowered by 58% (1.2dS/m→0.5), content of soil organic material was risen from 6.7 g/kg to 16.0 (1.4 fold ↑), porosity of soil was elevated from 1.57 % to 1.31 (16.6%p ↓), soil hardness was reduced from 20.2 mm to 17.9 (11.4% ↓) and plow layer soil was deepen from 19.8 cm to 26.8 (35% ↑). In the wake of physicochemical improvement of reclaimed soil, the growth phase of crops became better contrast to non-treatment. For example the plant height of Kenaf (*Hibiscus cannabinus* L.) cultivated in reclaimed land containing organic materials was lengthen by 18.8%. Especially, the improvment effect of pellet type manure compost and rice straw was more preferable. When the kenaf was cultivated in reclaimed land containing organic materials, the yield was become higher. The average yield of organic materials treatment was 9,218 kg/10a, and it was 2.1 times higher than non-treatment (4,368kg/10a). And the effective treatments to increase yields were pellet type manure compost (10,848 kg/10a, 148% ↑), rice straw (120% ↑) and chopped kenaf (95% ↑). To intensify the effect of physicochemical enhancement of reclaimed land soil and improving yields, we put into various physical types of organic materials (pellet type, liquid type, powdered type). The most effective organic materials type for enhancement of physicochemical properties (EC of reclaimed soil was lowered, content of soil organic material was risen, porosity of soil was elevated, soil hardness was reduced, plow layer soil was deepen) was pellet. And source to maintain better growth phase and get more yield were liquid and pellet types. When we used pellet type organic material, the plant height of kenaf was lengthen by 41% in comparison with non-treatment and yield was more than 122% more. And also liquid type could get more yield (by 127%) and growth phase (by 38%)

Keywords: Kenaf (*Hibiscus cannabinus* L.), Reclaimed land, Organic material, Pellet type manure compost

Corresponding author\*

Chan Ho Kang

Address : 413 Seodong-ro Iksan-si Jeollabukdo 54591 Rep. of KOREA

Tel and Fax : +82-63-290-6034 and +82-63-290-6059

E-mail : kangho68@korea.kr