

# Production of Organic Compost from Water Hyacinth for the Growth of Chinese Mustard (*Brassica juncea*)

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## Abstract

In the present work, composted organic fertilizer was prepared from water hyacinth with effective microorganisms (EM). Water Hyacinth samples were collected from Yangon City Development Committee (YCDC) drainage system, South Okkalapa Township, Yangon Region and effective microorganisms (EM) and molasses were collected from Myay Patethar Island. Composted organic fertilizer (COF) was prepared by using 13 kg of water hyacinth and 5L of effective microorganisms (EM). Effective microorganisms (EM) solution was prepared by mixing EM: molasses: water (1: 1: 98 v/v). Temperatures of composted organic fertilizer were determined during composting process (60 days). After composting, the elemental analysis of composted organic fertilizer was performed by EDXRF. According to EDXRF results, COF has the highest potassium content (0.661 %) and the lowest contents of Sr, Zn, Rb and Br. After that, a field experiment was carried out to determine the effects of the composted organic fertilizer with one treatment and control grown on Chinese mustard (*Brassica juncea*) in Thuwanna football stadium compound, Thingangyun Township, Yangon Region. The treatment and control were: T 1 (COF) and T 2 (control without fertilizer). Growth rates of plant height and leaf sizes of chinese mustard by using composted organic fertilizer and without fertilizer were measured. The highest growth of chinese mustard was found in Treatment T 1. The results from this study indicated that composted organic fertilizer could be used as effective replacement of chemical fertilizers for the growth and production of chinese mustard. Biofertilizers are broadly applied in organic farming and the composing process is the most effective method.

**Keywords:** effective microorganisms (EM), composted organic fertilizers, chinese mustard

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