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Application of slow-release NPK fertilizer on the growth of sweet corn plants (*Zea Mays* L.)

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IOP Conference Series: Earth and Environmental Science, Volume 1471, The 4th International Conference on Environmental Ecology of Food Security 2024 07/08/2024 - 08/08/2024 Merauke, Indonesia**Citation** Dewi Sartika *et al* 2025 *IOP Conf. Ser.: Earth Environ. Sci.* **1471** 012007**DOI** 10.1088/1755-1315/1471/1/012007

Abstract

Inefficiency and asymmetry in applying fertilizer in agricultural cultivation activities cause various problems, including environmental issues, imbalance in soil nutrition, and food production, which could be more optimal and impact human health. The development of slow-release NPK fertilizer products (NPK-SR) is a solution to overcome the problem of inefficiency, providing and improving fertilizer performance through optimal nutrient absorption. This research aims to determine the effect of NPK concentration of slow-release fertilizer on the growth of sweet corn plants. This study was carried out with a wholly randomized non-factorial plan with six treatment levels (0, 10, 20, 30, 40, and 50 grams of NPK-SR Fertilizer); observations were made on days 0, 14, 28, 42, 56, 70, and 84 DAP. The study showed that application of slow-release NPK fertilizer significantly affected plant height, number of leaves, leaf area, ear length, and ear diameter. The best NPK-SR fertilizer concentrate was given in the 30g treatment, which gave the best results for the growth of sweet corn plants.