

***INTERNET OF THINGS-BASED SOIL NPK VALUE MONITORING
SYSTEM FOR OPTIMIZING MELON CULTIVATION IN KERTONEGORO
VILLAGE FARMER GROUP***

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ABSTRACT

East Java is the largest melon producer in Indonesia, reaching 68,527 tons in 2021, and Jember Regency is one of the largest producers in East Java. The Kertonegoro Village farmer group is one of the melon farmers in Jember district, which has the problem of difficulty in monitoring soil NPK levels, which affects the excessive application of NPK fertilizers. As a solution, this Internet Of Things (IoT)-based soil NPK value monitoring system is designed to make it easier for farmers to monitor soil conditions in real-time. This research uses the usability testing method, each stage of which includes literature study, planning, assembly of Internet Of Things (IoT) components and systems, implementation, and system testing. The results of the research show that the developed system allows farmers to monitor soil NPK levels more effectively, so as to avoid over-application of NPK fertilizers. With the implementation of this monitoring system, it is expected that farmers can improve the efficiency of fertilizer use and increase melon production yields.

Keywords: *Monitoring system, NPK levels, Melon, Internet Of Things (IoT)*