

Design Of A Portable Sprayer Tool Based On The Internet Of Things Using Autodesk Inventor Software

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ABSTRACT

*The vanilla plant, also known as *Vanilla planifolia* Andrew, is a plantation plant that uses parts of its fruit to be processed into a mixture of food fragrances or perfume. This plant requires good care. One way to increase the effectiveness of vanilla plant care is to use a Portable Sprayer System which can regulate the water flow automatically. The Portable Sprayer System is a technology developed to increase the efficiency and effectiveness of agricultural applications. The formulation of this research problem focuses on the absence of an IoT-based portable sprayer system for vanilla plants which was designed using Autodesk Inventor Pro software. This research aims to design and create a portable sprayer system based on the internet of things using Autodesk Inventor Software. The research method used is RND (Research and Development) which is carried out to improve existing science or technology, or to create something new. This tool is designed with a maximum capacity of 200 kg and is easy to move, making it easier to use. The design feasibility test was carried out using a Likert scale questionnaire which was proven to have an agreement level of 87.6%. The stress analysis simulation results show that this design meets the required safety and reliability standards. Next, a design revision was carried out because it had not reached the portable target, so a new design was created to make the reservoir frame more effective so that it was easy to move. The application of the frame using plate iron and angle iron was successful, and showed durability according to standards. This research makes a significant contribution to increasing the efficiency of the vanilla plant irrigation process.*

Keyword: Design, Portable Sprayer, Vanili Plant