

***Internet of Things-Based Automatic Plant Seed Breeding Tool  
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**ABSTRACT**

*Agriculture is one of the livelihoods for the community which is growing with the increasing needs of the community. Along with the increasing demand for agriculture, the development of the system includes the ease of automatic breeding. As technology develops in agriculture, the DHT11 sensor can be used as an automatic plant seed nursery. In the nursery process the main variables that must be controlled are humidity, temperature, lighting and size where these variables are the main supporting factors in plant breeding. According to Prajnanta (1998), the growth of plant seeds will be optimal with a temperature in the range of 24°C to 28°C and a relative humidity of 78%. In this study, an automatic agricultural plant nursery tool was designed that could regulate the needs of cultivated plant seeds. This tool uses a DHT11 sensor as a temperature and humidity reader. In this tool NodeMCU is used as the main control or microcontroller. This tool serves to regulate the need for seeds to be planted, such as water requirements, humidity, temperature and lighting by using LEDs (light emitting diodes) as lighting requirements, using infrared sensors as physical determinants or seedling height to determine the quality of seeds ready to be transferred in this method. plant next. Based on nursery needs that have been determined according to seed needs, this tool is equipped with a water pump and sprinkler to meet the water needs of plant seeds and a fan to stabilize temperature and humidity by inputting values from the DHT11 sensor and LCD (liquid crystal display) which can display humidity conditions, temperature in the nursery box area. This tool also utilizes instant messaging using telegram to inform the condition of the plant nursery box and inform that the seedlings are ready to be transferred to the next planting method when the physical qualities are met. This tool system uses temperature and humidity control for better seed growth and this tool can inform the size of plant seeds to be transferred to the next planting method when the plant seed size is 10cm via the telegram application. In this automatic plant nursery system, you can breed 3 types of plant seeds, namely chili seeds, tomato seeds and green bean seeds. After testing and research this tool can work well and the three seeds that are planted can grow as specified.*

**Keywords:** *plant, seed, DHT11, temperature, humidity*