

Predictive Modeling of Rubber Plant Growth Using Environmental Data and Machine Learning Techniques.

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Rubber plant nurseries require effective management to maximize agricultural resources and ensure good plant health. This paper presents the Rubber Plant Growth Prediction System, which uses environmental data to predict the diameter of the stem, an important index used in plant growth. In this work, initial plant growth was predicted using a vision-based technique, but due to difficulties in data acquisition and the accuracy point of view, that approach may not be feasible. The method based on stem diameter was then adopted, incorporating environmental parameters such as soil moisture, soil temperature, ambient temperature, and humidity. With a limited dataset, it was quite challenging to be accurate in the predictions, but developing a comprehensive data collection system filled those gaps, making the measurements more reliable. This forms the basis for increasing predictive accuracy in improving resource management in the nursery and therefore contributing to sustainable agricultural practices.

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