

***UNIFORMITY OF AB MIX NUTRIENTS WITH MIXING PUMP IN DRIP  
IRRIGATION SYSTEM***

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***ABSTRACT***

*The drip irrigation system is an advanced and efficient method of delivering water directly to plant roots. However, farmers often face issues with the imbalance in the provision of AB MIX nutrients, which negatively impacts plant growth. This imbalance often results from uneven mixing of nutrients, causing some plants to receive excessive or insufficient nutrients.*

*This study aims to develop a uniform AB MIX nutrient system using a mixing pump in the drip irrigation system. The mixing pump is designed to accurately and evenly mix nutrients A and B in a reservoir filled with clean water. A TDS (Total Dissolved Solids) sensor is added to measure the concentration of the nutrient solution, ensuring that the AB MIX nutrient mixture produced meets the plants' needs.*

*The study results show that the use of a mixing pump and TDS sensor can create a more uniform and consistent nutrient mixture. This contributes to increased efficiency and effectiveness of the irrigation system, improved crop yields, reduced production costs, and minimized crop failure risks. Therefore, this system offers an innovative solution for enhancing the quality and productivity of modern agriculture through better nutrient management.*

***Keywords:*** *Drip irrigation, mixing pump, TDS sensor, agriculture, linear regression for calibration, Mean Absolute Percentage Error (MAPE).*