

## Understanding Farmers' Perceptions Towards Agrivoltaics Using Decision Tree Algorithms

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**Abstract :** In recent times the concept of agrivoltaics has gained popularity due to the dual use of land and the added value provided by photovoltaics in terms of renewable energy and crop production on farms. However, the transition towards agrivoltaics has been slow, and our research tries to investigate the obstacles leading towards the slow progress of agrivoltaics. We applied data science decision tree algorithms to quantify qualitative perceptions of farmers in the United States for agrivoltaics. To date, there has not been much research that mentions farmers' perceptions, as most of the research focuses on the benefits of agrivoltaics. Our study adds value by putting forward the voices of farmers, which play a crucial role towards the transition to agrivoltaics in the future. Our results show a mixture of responses in favor of agrivoltaics. Furthermore, it also portrays significant concerns of farmers, which is useful for decision-makers when it comes to formulating policies for agrivoltaics.

**Keywords :** agrivoltaics, decision-tree algorithms, farmers perception, transition

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