Assessing the Economic Impact of Satellite and Drone Imagery Fusion on Cotton Production: A Case Study

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Abstract

This research investigates the economic impact of integrating satellite and drone imagery for cotton production forecasting. While technological advancements have paved the way for improved monitoring, it is essential to evaluate the cost-effectiveness and return on investment for farmers adopting these technologies. The study aims to conduct a comprehensive cost-benefit analysis, taking into account the initial setup costs, operational expenses, and the potential economic gains associated with enhanced cotton production forecasting. Using a case study approach, the research will examine the experiences of farmers who have implemented the integrated imagery approach in their cotton fields. By assessing factors such as increased yield, resource optimization, and reduced environmental impact, the study seeks to quantify the economic benefits and drawbacks of adopting this advanced agricultural technology. The findings of this research will not only provide valuable insights for farmers and policymakers but also contribute to the broader discussion on the economic feasibility of incorporating cutting-edge technologies in agriculture. Understanding the economic implications is crucial for promoting the widespread adoption of these technologies and fostering sustainable practices in the cotton production sector.