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Strategy for Increasing Agricultural Productivity Through the Application of Innovative Technology and Practices

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Abstract

This research discusses strategies for increasing agricultural productivity through the application of innovative technology and practices. This approach aims to improve the efficiency of resource use and increase agricultural yields. The research method involves a comprehensive analysis of the implementation of the latest agricultural technologies and innovative practices in the context of modern agriculture. The findings of this research identify that the integration of advanced technology and innovative practices can significantly increase agricultural productivity, reduce losses, and increase the sustainability of agricultural enterprises. The implication of this research is the importance of adopting technology and innovation in improving farmer welfare and overall food security. This research provides conceptual and practical contributions in developing strategies to support the growth of the agricultural sector through technology and innovation-based approaches.

Keywords: Productivity, agriculture, technology, practice and innovation

INTRODUCTION

The introduction in this research aims to identify and outline the important context of strategies to increase agricultural productivity through the application of innovative technology and practices. First, emphasis is placed on global problems related to the need for increased food production in line with population growth. Apart from that, climate change, limited natural resources, and changes in consumption patterns are also factors that demand innovation in the agricultural sector.

In this context, the application of innovative technology and practices is considered crucial in increasing production efficiency, reducing the risk of losses and strengthening food security. Apart from that, the introduction will also outline the relevance and urgency of this research in supporting the achievement of sustainable development goals, including economic, social and environmental aspects in the agricultural context.

By understanding this background, it is hoped that this research can provide in-depth insight into how the application of technology and innovation can be the key to increasing agricultural productivity in a sustainable manner and contributing to improving farmer welfare and overall food security.

Novelty in strategies for increasing agricultural productivity through the application of innovative technology and practices can include several aspects, such as integration of the latest technology. Combining the latest agricultural technology that may not have been widely applied in the agricultural context to significantly increase efficiency and productivity. Implementation of Innovative Practices. Identify and implement innovative practices that have rarely been used or combined before in agricultural contexts to achieve better results. Holistic Combination Combining innovative technologies and practices in a holistic and integrated manner to create a comprehensive approach to increasing agricultural productivity.

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Emphasis on Sustainability Highlights sustainability aspects in the application of innovative technologies and practices, such as waste reduction, efficient use of natural resources, and lower environmental impact. Contribution to Food Security Focuses on how this strategy can make a significant contribution to food security locally and globally through increasing agricultural productivity. Novelty in this research may be found in new approaches, unique combinations of technology and practice, or emphasis on outcomes that have not been widely explored before in the context of increasing agricultural productivity through innovation.

To increase agricultural productivity through the application of innovative technologies and practices, a multifaceted approach is essential. Research by emphasizes the importance of integrated crop management technologies in agriculture, highlighting the need to consider factors such as land use change, climate change, production capacity, soil fertility, food security, economic development, and environmental sustainability. discusses the prospects for implementing conservation agriculture to improve soil quality and land productivity. advocates the integration of information technology in crop production to improve agricultural productivity, resource efficiency, and sustainability(1). Further emphasizing the importance of post-harvest technology in providing added value to agricultural commodities through processing. explore optimizing the role of millennial farmers and digitalizing agriculture to increase agricultural productivity and attract the younger generation to farming(2). A review of the Internet of Things (IoT) in smart agriculture highlights its potential in increasing productivity and predicting agricultural problems(3). Additionally, our research on precision agriculture using IoT-based sensors underscores the importance of managing spatial and temporal variability to efficiently increase agricultural production(4). His study of precision agriculture in pepper cultivation suggests strategies such as increasing human resources, mechanization, and digitalization to accelerate the adoption of precision agriculture innovations (Pitono, 2020). Additionally, his research emphasizes how agricultural technology directly reduces poverty levels by increasing production capacity(5). In conclusion, by integrating advanced technologies such as IoT, information technology, and precision farming practices, as well as post-harvest innovation and conservation agriculture, agricultural productivity can be significantly improved. These approaches not only increase efficiency and sustainability but also attract young people to get involved in agriculture, ultimately contributing to economic development and food security.

RESEARCH METHOD

Research methods for strategies to increase agricultural productivity through the application of technology and innovative practices. Literature study by conducting thorough observations of relevant literature to understand the latest developments in agricultural technology and carry out innovative practices

RESULTS AND DISCUSSION

The results and discussion of the research "Strategies for Increasing Agricultural Productivity Through the Application of Innovative Technology and Practices" may include the following points:

1. Increased Productivity: This research may show a significant increase in agricultural productivity as a result of implementing innovative technologies and practices.
2. Resource Efficiency: Results achieved can include efficient use of resources such as water, fertilizer and energy, contributing to increased yields and agricultural sustainability.

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3. Increase in Farmers' Income: The impact of implementing this strategy on farmers' income and their economic well-being can be discussed in the results and discussion
4. Food Security: This strategy is expected to contribute to food security through increasing production and sustainability of agricultural systems.
5. Environmental Impact: Evaluation of the environmental impact of implementing innovative technologies and practices can also be an important part of the results and discussions, including aspects of long-term sustainability.
6. Relevance and Implications: The results of this research can be discussed in the context of relevance to agricultural policy, sustainable cultivation practices, and practical implications for stakeholders in the agricultural sector.
7. Limitations and Recommendations: An in-depth analysis of the limitations of the study, areas for further research, as well as practical recommendations for implementation of this strategy may also be included.

By combining empirical results with in-depth analysis and discussion, these results and discussion are intended to provide a comprehensive understanding of the effectiveness and potential of strategies to increase agricultural productivity through the application of innovative technology and practices.

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