Review of: "Sustainable Agriculture: Aquaponics-Integrated Greenhouse Cultivation of Cantaloupe with Drip Irrigation System"

Jalel Ktari[1]

1 National School of Engineers of Sfax (ENIS)

Potential competing interests: No potential competing interests to declare.

This study investigates the effectiveness of an aquaponics-integrated greenhouse cultivation model for cantaloupes in Vietnam, emphasizing its climate-resilient and economically advantageous features. Through the incorporation of agricultural membrane technology, drip irrigation systems, and careful monitoring, the model ensures year-round cantaloupe production, reduced vulnerability to weather fluctuations, and effective pest control. The successful pilot under the "Investigate, develop, and construct an organic fish and vegetable aquaponics farm model" project in Ben Tre province showcases not only elevated productivity and quality but also economic benefits by optimizing resources and cutting production costs. The study provides comprehensive insights into the implementation methods, technical measures, growth indicators, and challenges faced, such as powdery mildew and root rot diseases. Results indicate surpassing of project targets in terms of total output, fruit quality, and adherence to food safety standards. Recommendations include further fine-tuning of growing conditions, diversification of cantaloupe varieties, integration of smart farming technologies, and collaboration with research institutions for ongoing improvement and innovation in sustainable agricultural practices. Overall, this research contributes valuable knowledge for those interested in advancing climate-resilient and sustainable agricultural approaches.