CARBON FOOTPRINT AND TRACEABILITY FOR A SUSTAINABLE DRAGON FRUIT VALUE CHAIN IN BINH THUAN PROVINCE

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Vietnam's commitment to achieving net-zero emissions by 2050 and a 30% reduction in methane emissions by 2020 has prompted a strong push for green transitions in its agricultural sectors, including dragon fruit production. This paper conducted measurement of carbon footprint and examines the challenges faced by Vietnam's dragon fruit industry in maintaining competitiveness amidst increasing competition from other producers like China, India, and Mexico.

Supported by MARD and UNDP, the green transition of dragon fruit supply chains in Binh Thuan province has focused on sustainability, reduced carbon emissions, and eco-friendly practices, while also enhancing farmers' incomes. Through initiatives such as climate-resilient irrigation, energy-efficient processing, and adherence to GlobalGAP standards, various dragon fruit farms and cooperatives in Binh Thuan have successfully increased productivity and improved fruit quality, meeting the demands of foreign markets.

In a pilot program from 2021 to 2023 involving 300 farms covering 178 hectares, QR codes for traceability were implemented, providing information on product origin and greenhouse gas emissions associated with production and distribution. Preliminary findings show that GlobalGAP, organic, and VietGAP practices exhibit lower carbon footprints compared to traditional methods, with strategies for emission reduction including optimizing fertilizer usage and renewable electricity.

Vietnam has established an innovative E-Traceability system, crucial for local producers, traders, and processors to manage GHG emissions throughout the supply chain, ensuring compliance with emerging carbon border adjustment mechanisms in export markets. Digital solutions for production management, traceability, and carbon footprint tracking empower small farming households and enterprises, offering a competitive edge.

In conclusion, achieving a sustainable dragon fruit supply chain involves leveraging ecological advantages, adopting a holistic value chain approach, implementing climate-resilient measures, and enhancing environmental protection. These efforts are essential for securing a climate-responsible future for dragon fruit production and consumption in Vietnam.

Keywords: Binh Thuan province, carbon footprint, climate change, dragon fruit, GHG reduction, traceability