

Mixed Interger Linear Programming Approaches To Aggregate Production Planning In Tangerine Supply Chain

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Abstract

One of the most challenging tasks in Agro-industry is production controlling and planning throughout the supply chain. The benefits of managing supply chain network by integrating operational, production and transportation have been acknowledged by the industry and academic community. The objective of this work is to determine the optimal configuration of a production in tangerine supply chain that consists mainly of aggregate production planning in packaging factory. If the production plan is not consistent with the quantity harvested citrus. Tangerine will cause a lot left in the warehouse. As a result, the spoilage orange, factory revenue loss. A mixed integer linear programming models were developed starting from harvesting to finished products, including production planning for successive production. Optimum results showed that total cost were reduced to 1.36% when compared to the cost before using the models.

Keywords

Supply chain management, Mixed integer linear programming, tangerine, production planning

Biography

Chaimongkol Limpianchob is lecturer of The Engineering Program (Industrial Engineering-Logistics) in Faculty of Engineering at Kamphaeng Saen, Kasetsart University, Thailand. He graduated a Bachelor of Engineering degree in Industrial Engineering from Naresuan University and received full scholarship by Naresuan University for Masters degree in Engineering Management. Field of interests and research are Operations Research, Supply chain and Logistics management (Transportation and distribution planning with Mathematical Modeling), Supply chain optimization, Production and Planning Control (Mathematical Modeling in Production planning)