

عنوان مقاله:

A combined transportation model for the fruit and vegetable supply chain network

محل انتشار:

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خلاصه مقاله:

In this research, the problem of combined transportation in the supply chain of fruits and vegetables under uncertainty has been modeled. The designed model includes ۴ levels consisting of cultivation, packaging, distribution and customer centers that aim to meet customer demand for perishable products (fruits and vegetables) under conditions of uncertainty in different scenarios. The presence of multiple vehicles in the supply chain network at different costs has led to the model showing the most suitable combined transport based on the results of the model solution by CPLEX method. Data, and as the probability increases or decreases, the amount of transfer time decreases. The result of changes in uncertainty rates also shows that with increasing uncertainty rates, the amount of demand increases and as a result, more transportation options are used for transportation. This has led to an increase in product transfer time. In the most important sensitivity analysis regarding the time of corruption, it was found that with the increase of corruption time, due to the possibility of storing perishable products and avoiding unwanted transportation, the possibility of using high speed vehicles has been provided and transfer time has decreased. Also, by analyzing the objective function and computational time in larger sizes with SCA and GA algorithms, it was observed that there is no significant difference between the mean indices and the SCA algorithm has a higher efficiency than the GA algorithm in obtaining the value of the objective function in acceptable time.

کلمات کلیدی:

Fruit and Vegetable Supply Chain, Combined Transportation, Product perishability, Robust Fuzzy Stochastic Optimization Method

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