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(Blank, Tarquin, 1989) .() -)

Linear programming

Post-optimality analysis

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Bector and Chandra, 2005; Hazell)

:(and Norton, 1986 :

$$Max Z = CX$$

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$$AX \leq b$$

$$X \geq 0$$

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Scoring Technique

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Optimal solution

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The Economic Aspects of Sugar Beet Production Strategy in Egypt

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ABSTRACT

This study aimed at developing a strategy to increase the production of sugar beet in Egypt through the establishment of a priority Governorates for sugar beet cultivation, based on Scoring Technique and multi-criteria weighted average, The most important of them are water productivity and comparative advantage which is expressed by the average cost per ton. The study also adopted the linear programming model to determine the governorates suitable for sugar beet cultivation in the light of the resource constraints where the most important one is land and water resources.

The study results can be summarized as follows: (1) cultivation and production of sugar beet was concentrated in Governorates with medium productivity (from 16.02 -26.04 ton / fedden), as the average cultivated land and Production of sugar beet in the medium productivity Governorates reached 94.46 % and 92.37%, respectively during the period 2008- 2012, (2) Suhag governorate ranked first in the list of governorates for sugar beet cultivation, while the New Valley Governorate last rank, (3) concentrate cultivation of sugar beet in the governorates of high productivity (Menia, Assuit, Suhag) and some governorates of medium productivity (Sharkia, Dakahlia, Menoufia, Qalyoubia and Beni Suef and Qena) is considered best compare to current situation, in view of the ability of proposed resource allocation to increase the local production of sugar beet by 1.74 million tons, at a rate of 24.9 %, with reduced crop cultivated area by 49.96 thousand fedden, at a rate of 14.75 %, (4) Average productivity per fedden in the proposed resource allocation is estimated to be 30.2 tons, compare to 20.62 tons/fedden in the current situation, i.e. increase in productivity per fedden in the proposed allocation of resources is about 9.58 tons/fedden, at a rate of 46.5 %, (5) The study recommends that to concentrate cultivation of sugar beet in the governorates of high and medium productivity and exclude sugar beet cultivation from governorates of low productivity.

Keywords: Sugar beet, Production, cultivated area, water resources, linear programming.