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RESEARCH PAPER

Optimization of production plan and profit maximization of value added products of tapioca – Linear programming model

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ABSTRACT

Tapioca crop is suitable for manufacturing the starch. The major value addition products are starch, sago, wafers, animal feed, glucose, gum etc. Linear programming for profit maximization was used in this study. The results could be observed from the study that more amount was spent for electricity, building and machineries, packing materials and fuels. To obtain an optimum production and also to maximize the net returns from the ten different product grades of the starch, sago and wafers, a linear programming model was used. Among the various value added products by utilizing 100 kg of starch, Starch – edible, Sago - super fine and Wafers – white were the value added products suggested. The optimum level of these three products would maximize the profit to level of Rs.360.25 when 100 kg of starch was put into value addition. The optimization of these activities with the limiting resource endowment would thus, indicate that possibilities still existed to further improve the profitability of the units by utilizing that already manufactured starch into more value added products especially starch edible, sago super fine and wafer white. Major problems faced by processors were shortage of electricity, non-availability of good quality tubers, scarcity of labour and non-availability of storage facility for tubers.

KEY WORDS : Starch, Sago, Wafers, Production, Linear programming, Constraints for processors

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