

A STUDY ON MULTI-OBJECTIVE MODELS USING INTUITIONISTIC FUZZY SETS

R. Sophia Porchelvi¹, S.Rukmani²

¹Associate professor of Mathematics, A.D.M College for women (Autonomous), Nagapattinam, India

²Assistant Professor of Mathematics, STETCollege for Women, Mannargudi, India

OBJECTIVES

Two kinds of edible mushrooms such as Paddy Straw Mushroom and Oyster Mushroom are analyzed and some decisions were made.

ABSTRACT

A real life model in mushroom cultivation has been formed and it is solved through some of the mathematical models. In this study two kinds of mushrooms such as Oyster mushroom and Paddy straw mushroom are considered and the necessary data to form the problem has been collected and observed from the project proposal of mushroom, Directorate of Horticulture, Orissa through website and some mushroom units. Intuitionistic fuzzy Linear programming problem has been formed from the collected data and in which the maximum production and maximum profit with minimum cost of production with respect to various factors such as land utilization, requirement of food, raw materials and Labour etc., are determined. Moreover, Intuitionistic fuzzy linear fractional programming problem has been formed in which the maximum ratio of yield to land occupied and maximum ratio of profit to capital invested are determined. This study will give an idea to the mushroom cultivator to get maximum production and maximum profit with minimum cost of production.

SIGNIFICANCE

Maximum production and maximum profit with minimum cost with respect to various factors such as land utilization, requirement of food, raw materials and labour etc., are determined. Moreover, maximum ratio of yield to land occupied and maximum ratio of profit to capital invested are determined.

METHODOLOGY

Due to the uncertainty in various factors, intuitionistic fuzzy set is applied to deal with the problem. Linear Programming and Linear fractional programming problems were formed and obtained the solutions through preemptive optimization technique and weighting factor approach.

CONCLUSION

It gives an idea to the mushroom cultivator to get maximum production and maximum profit with minimum cost of production.

