**Editorial**
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# Mathematical Model of Fuzzy Linear Programming

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## Editorial

Establishing a mathematical model of linear programming is to start from actual problems, grasp the main factors, determine the decision variables, find out the constraints, and establish a fuzzy linear programming model. Although many fuzzy linear programming models for economic problems have different characteristics, they all have the following three basic characteristics. Firstly, every seam economy problem uses a set of unknown variables ($x_1$, $x_2$, ..., $x_n$) to represent a certain planning plan, and a set of fixed values of this set of unknown variables represents a specific plan. Moreover, the variables in these economic problems often have non-negative requirements.

What is more, the research and resolution of these economic problems must meet certain conditions. For the fuzzy linear programming model problem, the selected conditions, namely the constraints, can be written in the form of linear equations and linear inequalities. Finally, there are often many different options for solving these economic problems, which means that there may be many options that meet the constraints. We ask them to choose an optimal solution from them. There is a question of measurement standards, that is, according to which quantitative standards to evaluate a plan is the best, we call this quantitative standard the objective function. The objective function is determined according to the nature and requirements of economic problems. According to different research questions, the objective function is often required to take the maximum or minimum value. The objective function and constraints of each problem are linear.

In the process of agricultural economic management, it has many advantages such as dynamic tracking, freedom from linear constraints, and easy adjustment of parameters. However, it is necessary to formulate a series of socio-economic development strategies and apply the fuzzy linear programming model to calculate the dynamic changes of each function value under different crop growth conditions. In addition, for multi objective variables of crops, the objective function and constraint conditions are fuzzy. That is, different membership functions are used to change within a certain range to make the target value rise and fall within a certain range. Fuzzy linear programming is to fuzzify the constraint conditions and the objective function and establish a new linear programming problem through the membership function, and its optimal solution is called the fuzzy optimal solution of the original problem. We should determine the constraints of the model, that is, the constraints that affect the final optimization goal. This requires full consideration of various restrictive factors that affect the realization of the ultimate optimization goal, and the main restrictive factors affecting the goal planning are expressed as a constraint relation [1-5].

The model established should take into account the protection of the ecological environment, economic development, and social harmony and stability in the project area. Therefore, it is necessary to establish an objective function based on the maximum economic benefit while taking into account ecological and social benefits and, finally, establish a fuzzy linear programming model. Use a two-stage solution method to solve: first, add artificial variables to the original linear programming problem, construct a fuzzy linear programming model, and then solve it; then use the simplex method to find the optimal solution of the original objective function, which is the original problem The fuzzy optimal solution of finally arrives at the optimal structural plan. Because of the uncertainty of crops in their growth and harvest, the concepts of motion and fuzziness should be introduced. Agricultural economic management should focus on the growth of crops and establish elastic constraints that change within a certain range. The constraints of linear programming are rigid and inelastic. If one constraint is not satisfied, the system will have no feasible solution. For example, if a certain constraint condition $F_i(x) \geq b_i$, according to the requirements of linear programming, the optimal solution with the lowest price can be calculated only if the constraint condition is satisfied, but it may also cause price rise or imbalance of crop development completely to meet the constraint condition $F_i(x) \geq b_i$. In this case, if the system can automatically relax the constraints, it is possible to export a balanced management method for economic development. Therefore, we use fuzzy logic methods to establish a fuzzy linear programming model for the optimization matrix of agricultural economic management.

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