

## **Abstract**

Crop structure is determined according to market requirements and pedo climatic conditions of the area. Depending on the optimization criteria, the crops will be optimal when it ensures the achievement of maximum profitability, in terms of assure quantity and assortment, to meet the requirements of the national economy for agricultural products, the full use of land and other means of production and also in the conditions of respect the plant culture restrictions regarding the share in crop rotation. Critical in optimizing the structure of crops is the economic efficiency, and made profits. The economic efficiency is in continuously changing due to raw materials and production goods changing prices. From here is the necessity of optimizing the structure of crops in each cycle of agricultural production. The main indicators used in optimizing the structure of crops are yield per hectare, cost of production to the surface unit, gross profit per hectare, the unit cost, of costs in 1000 lei income rate of return. Linear programming method presents the great advantage that allows choosing the optimal structure variant of a multitude of possible variations. Given the large volume of calculations, the linear programming technique involves mandatory, the use of electronic computing. Optimizing the structure of crop through linear programming requires drawing up the economic-mathematical model, including variables, restrictions, the purpose function and free terms. The purpose function can be represented by maximizing the effectiveness (gross profit or economy expenditure) or minimize the effort (total spending or intermediate spending). The considered restrictions are: the total area cultivated with cereals, minimum and maximum area occupied by grains, the average obtained production. The case study was conducted in suburban area of Iași, which includes the following communes: Valea Lupului, Lețcani, Bîrnova, Ungheni, Tomești, Victoria, Aroneanu, Rediu, Popricani, Miroslava, Ciurea, Schitul Duca, Holboca. The average bonity note of arable land is 55 points AETA, which corresponds to an area favorable for grain culture.

**Key words:** optimization, linear programming, cereal grains, suburban area