

## Finding the optimal structure of tomato production in the district of

Mariana Nikolla,<sup>1</sup> Elfrida Dishmema<sup>2</sup>, Xhevahire Dulja<sup>3</sup> Lumturi Sena<sup>4</sup>

<sup>1</sup>Agriculture University of Tirana, Email: mariana\_nikolla@live.com

### Abstract

The production of vegetables is an important source of income and food for the Albanian farmers. It is estimated that almost 245.000 farms, i.e. more than 2/3 of the total, are engaged in vegetables production. For a sustainable development of this sector, in particular is required the optimization of production and at the same time continuous analysis of the economic and technical factors influencing. This study analyzes the economic impact of five components (manure, fertilizer, crystalline manure, pesticides, irrigation) and productivity. The study involved 16 communes in Lushnja region where the target group were farmers engaged in greenhouse tomato production. This region is the area with the greatest production of vegetables which supply the overwhelming part of the domestic retail market. Farmers in Lushnja have challenged technologies in terms of agricultural products, according to which can be produced only once a year. For the first time farmers have managed to produce 12 months of the year, where over 1000 ha solar greenhouses in Lushnja are at full capacity mainly vegetable production, which occupied the leading place in planting. Culture of tomato has begun to be widely used and occupies 90% market share in the country defying import tomatoes. The main purpose of this paper is the use of modern methods in economic analysis in the tomato production. The study used Cobb-Douglas production function to analyze the influence of five inputs in one output and  $\log a_0, a_1, a_2, a_3, a_4, a_5$  were determined through the econometric computerized programmes, from which resulted that the models are suitable. We have built the Lagrange function (LC) to minimize the cost of tomato production. An important conclusion of this study is that maximum revenue and profit maximization reached at the same point on the expansion path where the cost is minimal. The study concluded getting the optimal structure of the tomato production in this region.

**Keywords:** *tomato, vegetable, pesticides.*