

relation between caraway production quantity in ton, seeds quantity in kilogeams x1, number of animal work X7 and number of irrigation hours x5 and the marginal product of these elements was about 1.22, 0.15, 0.6 respectively and the total production flexibility amounted about -3.23 i.e the production realized in the third production stage. The study showed that there is direct relation between marjoram production quantity in ton and each of organic manure quantity in cubic meter x4, number of human work hours S8 and the value of liminary production of these two elements was about 0.25, 0.36 respectively. The total production elasticity amounted about -1.44, i.e. the production realized in the uneconomic stage.

This study showed that all functions were in quadratic form and that agree with the economic logic. The economic derivatives of the function of feddan productive costs from the study crops in Fayoum Governorate cleared that the optimum size for the product reached about 1.4 ton from German chamomile, 1.872 ton from caraway and 3.9 ton from marjoram on the level of the sample. The minimum size of the costs achieved for fewer productivity was about 0.97, 1.3, 2.11 ton respectively.

This second section dealt with description of the study sample for the crops: spear mint, geranium and jasmine in Beni-Suef and Al Gharbia Governorates and method of selection of

collecting the sample data, selection of research sample and studying the relation between production quantities and production requisites for these crops besides calculation of double logarithmic production functions of the relation between the production of these crops and some independent variables for the sample according to the different holding sizes. A random sample was taken from the study crop farmers and by using the method of random sampling. The study showed that there is direct relation between spear mint production in tons and each of seeds quantity in "thousand seedling" x_1 phosphatic fertilizer quantity X_3 , number of irrigation hours X_5 and number of human work hours X_8 , the limitary production value of these elements about 0.07, 0.11, 97.33 respectively and the total production elasticity was about 0.81 i.e, the production realized in the second economic stage of production function.

This study showed that there is direct relation between geranium crop production in tons and seeds quantity x_1 , number of nitrogen X_2 and organic manure quantity in cubic meter x_4 . the value marginal production for these elements amounted about 0.62, 0.43, 0.6 respectively, i.e the production reslized in the second economic stage of production function.

There was also direct relation between production quantity from jasmine in tons, phosphate fertilization X_2 and human work hours X_8 . the value of marginal production of these

elements about 0.13, 0.77 respectively and the total production elasticity about 0.28 i.e production realized in the second economic stage. This chapter reviewed calculation of functions of productive costs for the study crops on the level of the governorates and the selected administrative centers.

This study showed that all functions were in quadratic form and that agree with the economic logic except of functions of costs in jasmine crop where they were in cubic form. The derivatives of the function of feddan productive costs from the study crops in Beni Suef Governorate, the optimum size for the profit from green mint was about 2.03 tons and from geranium 22.6 tons and the minimum size of costs about 2 tons, 18.5 tons respectively on the level of the total sample.

In Al Gharbia Governorate, the optimum maximization size of profit from jasmine amounted about 5.3 tons and the lowered size for costs and achieved for minimum productivity was about 2.7 tons.

This fourth Chapter dealt with the marketing methods, facilities and marketing functions for the most important medicinal and aromatic plants and the local marketing problems which face these plants and external marketing as well. The chapter also dealt with evolution of quantity, value and price of exporting the crops according to the relative importance during the period (1988-2007) whereas quantity, value and price of

German chamomile exports increased about 26.34 tons with value L.E 127000.21, 3047 L.E/ton respectively. Quantity, value and price of caraway exports increased about 24.27 ton with value and price of marjoram increased about 90.91 per ton with value L. E 628.58, 127.79 L.E/ ton during the same period. Quantity, value and price of spear mint increased about 80.95 ton with value L.E 57100.99, 226.875 also quantity, value and price of geranium exports about 1.97 ton with value L.E 57500.99, 1059.54 L.E/ ton meanwhile quantity of jasmine exports decreased about 0.11 ton and export value increased about L.E 10000.69 and export price decreased about 614.45 L.E/ ton. The chapter dealt with calculation of instability coefficient for these crops.

This study showed that instability coefficient for each of quantity, value and price of German chamomile amounted about 9.1, 630.5, 67.6, for caraway about 27.1, 15.2, 17.2, for marjoram 44, 61.4, 26.2, for spear mint 30.7, 65.2, 37.3, for geranium about 5.55, 45.15, 21.88 and for jasmine 22.57, 14.03, 4.66 respectively. The chapter also referred to the external markets for the most important medicinal and aromatic plants.

Quantity of medicinal and aromatic Plants exports reached about 29000 ton with value average about 30 million dollars during the period (2003-2007). This chapter dealt with the four methods to abstract volatile oils: distillation, abstraction

by organic solvents, abstraction by hydrolic distillation and by abstraction by enzymic solution. Marketing efficiency for the study crops has been calculated for German chamomile 93.5%, caraway 97.7%, marjoram 76.5%, spear 98.5%, geranium 71.4% and Jasmine 99.70% respectively. According to shepherd marketing efficiency formula.