THE ECONOMIC EFFICIENCY OF SOILS FROM POJEJENA, CARAS-SEVERIN, PLANTED WITH CORN AND WHEAT

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Abstract. *The paper refers to the economic efficiency of two soils perimeter of Pojejena, Caras-Severin namely luvisol and eutricambosol, based on the geographical location of the village, the processes of pedogenesis specific characteristics of soils, continuing with production resulting from the application of fertilizers and selling price of maize and wheat. At the same time, it has sought natural fertility status of the two types of soils expenditure required for setting up crop yields obtained and calculated economic efficiency of the farm concerned. The paper refers to the economic efficiency of two soils perimeter of Pojejena, Caras-Severin namely luvosoil and eutricambosoil, based on the geographical location of the village, the processes of pedogenesis specific characteristics of soils, continuing with production resulting from the application of fertilizers and selling price of maize and wheat. At the same time, it has sought natural fertility status of the two types of soils expenditure required for setting up crop yields obtained and calculated economic efficiency of the farm concerned. The land on which the trials were conducted, are privately owned family farm type. The total area under study is 42 ha. Luvosoil, occupies an area of 24 ha and eutricambosoil, 18 ha. The material studied is represented by two types of soils belonging Pojejena territorial administrative unit, Caras-Severin. These soils were studied in relation to environmental factors that determines their existence. It has pursued fertility status of soils in the study area, the expenses necessary to the establishment of a hectare of wheat and corn, vis-a-vis the production capacity of these soils, as reflected by the yields obtained and economic efficiency of the farm. To the knowledge of physical, chemical and hydric soils in the studied area we used data taken from OSPA Caras-Severin and those in the Municipality Pojejena. The importance and relevance of the study is to establish the economic efficiency of two soils, with an average natural fertility without the application of modern technologies and inexpensively start-up and maintenance. The yields obtained were different, depending on the soil type, namely: maize, the average in the two years under study is 5150 kg / ha, respectively luvosoil 4900 kg and 5400 kg on the eutricambosoil. Wheat, the average in the two years under study is 3050 kg / ha ie 2800 kg per luvosoil respectively on eutricambosoil 3300 kg.*

Key words: *soil, pedogenesis Processes, potentially productive, economic efficiency, corn, wheat, fertility*

INTRODUCTION

Soil is a natural body with a series of attributes, physical, chemical and biological changing, which is a support for the plant, a source of nutrients and imposing an intermediate fertilizers and (DAVIDESCU D. VELICICA DAVIDESCU, 1992).

POJEJENA village is located in the south-west of Romania, bordering the Serb Republic, on the left bank of the Danube, upstream from Moldova - Nine to 12 km. Relatively short distance to the urban center caused high environmental influences manifestation of the urban village. The village is located between 1054 -1062 kilometer river surrounded foothills north of whose heights not exceeding 300 meters altitude area values varying between 110 and 130 m, it is one of the most important places in the Danube Gorge.

Pojejena climate is temperate continental with shades submediteraniene, characterized by mild winters due to the influence of warm air masses from the Mediterranean. Rainfall is characteristic of Mediterranean type, with peaks usually in May and minimum in October.
Average annual rainfall is 800 to 1000 mm.
In terms basin hydrological network of village Pojejena is the Danube River to the south, in the west brook Radimna 1 km from the village limit creek Pojejena 50-100 m to the south-east, both streams flow into Danube river.

MATERIAL AND METHOD

The material studied is the land belonging to the territorial administrative unit Pojejena, Caras-Severin and soils identified in the mentioned area. They are studied in relation to environmental factors that determines their existence.

The paper was pursued fertility status of agricultural land in the study area, the expenditure required for setting up a hectare of wheat and corn, vis-a-vis the production capacity of these soils, as reflected by the yields obtained and economic efficiency of the farm. To the knowledge of physical, chemical and hydric soils in the studied area we used data taken from OSPA Caras-Severin and those in the Municipality Pojejena.

The total area under study is 42 ha. Soil types have been identified in field-based stud from Caras-Severin and OSPA from Hall Pojejena, these being:

Luvosoil, with an area of 24 ha;

Eutricambosoil with an area of 18 ha.

To the knowledge of physical, chemical and hydric soils in the studied area we used data taken from OSPA Caras-Severin, the existing of City Hall Pojejena and field data.

RESULTS AND DISCUSSIONS

If cultivation of maize, the average in the two years under study is 5150 kg / ha x maize selling price of 0.50 lei = 2575 RON. From here we subtract the costs of establishing and maintaining a hectare of maize, namely:

2575 - 1459 = 1116 RON / ha

1116 X 25 ha = 27.900 RON

But if we take into account soil type, note that the luvosoil average yield per hectare for the two years under study is 4900 kg, respectively:

4900 x 0.50 = 2450 RON

2450 - 1459 (expenses) = 991 RON / ha

991 x 19 ha = 18.829 RON

Eutricambosoil the average yield for the two years under study is 5400 kg, respectively:

5400 x 0.50 = 2700 RON

2700 - 1459 (expenses) = 1241RON / ha

1241 x 6 = 7446 RON

If wheat cultivation, the average in the two years under study is 3050 kg / ha x selling price of wheat is 0.70 lei = 2135 RON. From here we subtract the costs of establishing and maintaining a wheat ha respectively:

2135 - 1147 = 988 RON / ha

988 x 17 ha = 16.796 RON

If we take into account wheat as well as corn, soil type, note that the luvosoil average yield per hectare for the two years under study is 42800 kg, respectively:

LUVOSOIL EUTRICAMBOSOIL

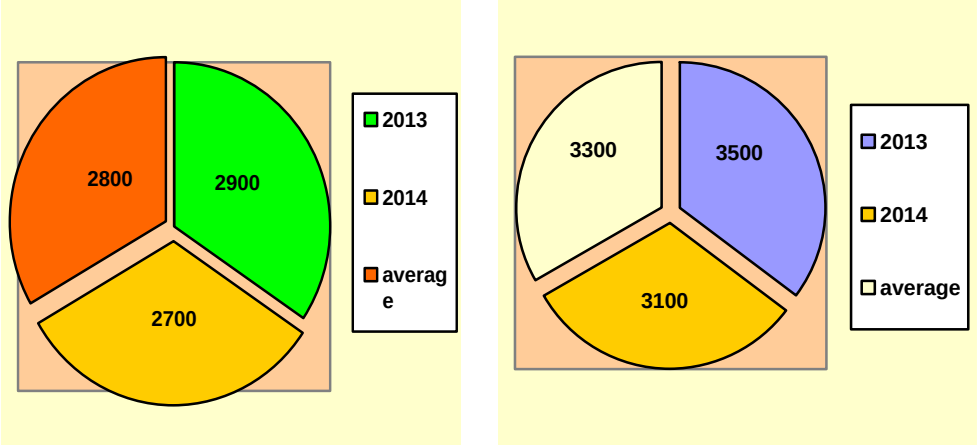

Figure 1 Wheat yield (t / ha) obtained on luvosoil and eutricambosoil

If wheat crop on luvosoil, they ranged from 2900 kg / ha in 2013 to 2700 kg / ha in 2014, with an average for the two years to 2800 kg / ha.

On eutricambosoil, as in the case of the maize crop yields obtained were higher, namely 3500 kg / ha in 2013 or 3100 kg / ha in 2014, with an average two years 3300 kg / ha. In the media production, without taking into account the soil type and the year studied, it was 3050 kg / ha.

Although fertilizers and treatments that were applied to the two cultures were the same in the course of 2013 and during 2014, obtained yields have varied widely. This is mainly due to climatic conditions in 2014, knowing that rainfall during the growing season were higher, which helped to obtain higher yields compared to those obtained in 2013.

kg, respectively:

2800 x 0.70 = 1960 RON

1960 - 1147 (expenses) = 813 RON / ha

813 x 5 = 4065 RON ha

Eutricambosoil the average yield for the two years under study is 3300 kg, respectively:

3300 x 0.70 = 2310 RON

2310 - 1147 (expenses) = 1163 RON / ha

1163 x 12 = 13.956 RON

CONCLUSIONS

In terms of economic efficiency, maize behaved best, meaning that yielded an average profit of 1116 RON / ha, respectively 991 RON / ha on luvosoil and 1241 RON / ha on eutricambosoil. Wheat, the yield was 988 RON / ha, ie 813 RON / ha on luvosoil and 1163 RON / ha on eutricambosoil.

From this we can deduce that regardless of culture, the largest production capacity has eutricambosoil followed by luvosoil. And as a culture, maize, wheat followed.

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