

A COMPARATIVE ECONOMIC ANALYSIS REGARDING THE RENTABILITY OF CULTIVATING PIONEER MAIZE HYBRIDS IN BIHOR COUNTY IN 2012/2013

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Abstract.

The study was carried out on Pioneer maize hybrids of all precocity groups. The paper is focused on the average yields in the 5 trial centres during the last 2 years. The value of the crop was between 5100 RON/ha and 8200 RON/ha in 2012 and between 1900 RON/ha and 7400 RON/ha, the great decrease being caused by the decrease of the valorizing price (from 1 RON/kg to 0,55 RON/kg) not because of the crops quantities; the profit varied between 2,100 RON/ha and 5,200 RON/ha for 2012 and between -221 RON/ha and 2020 RON/ha in 2013, and the profit rate was between 70% and 174.3% in 2012 and in 2013 varied from -6,5% to 53 %.

Key words: grain maize, economic efficiency

INTRODUCTION

High fluctuation of the prices in the valorising of the crops as well as of the prices of the inputs (fertilisers, pesticides, and fuel) result in calculus whose importance is only orientating. We present results from 5 areas of the Bihor county located in the north-western part of Romania. Experimental hybrids are characterised by their high-yielding capacity, by a plant architecture that allow the cultivation at large distance, resistance to breaking, resistance to fallow, diseases, and other pests.

MATERIAL AND METHOD

Economic indices calculated were yield value (RON/ha) value obtained by multiplying the quantity with valorising price, total production expenses (RON/ha) (unitary costs/t multiplied with the total quantity registered on the crop), profit (RON/ha) (as difference between crop value and total costs), and profit rate (%) obtained by dividing total costs (expenses / ha) at the profit.

Valorising price of grain maize was 1.00 RON/kg in 2012 and 0,55 RON/kg in 2013. In order to calculate production expenses, was also taken into account the same technology for all the trial fields. After calculating data, was made a comparative economic analysis to identify the evolution of these calculated economic indicators from 2012 to 2013 for 5 different zones from Bihor county.

RESULTS AND DISCUSSIONS

We present as it follows the crops registered in 2012 and 2013 in Valea lui Mihai, Diosig Oradea, Marghita and Salonta in Table 1. As it can be observed, the amounts in 2013 (regarding the "quantities" obtained) are better than the amounts from 2012 at least for Valea lui Mihai, Diosig and Marghita areas. Still the productivity was affected in Oradea and Salonta so in the first one registers with **52,12 %** less than in 2012 and with **47,54 %** less in the last one.

Table 1

Crops (tons) registered in 2012/2013					
Year	Valea lui Mihai	Diosig	Oradea	Marghita	Salonta
2012	8230	6880	7310	5120	6730
2013	10630	13480	3500	5820	3530
Rate (%)	29,16	95,93	-52,12	13,67	-47,54

Figure 1 shows yield value colored in blue for year 2012 and in red for 2013. It can be seen that in 2013 the crop value registered was lower than 2012 because of the valorizing price which decreased almost a half (from 1 RON/kg to 0,55 RON/kg). The only zone which registers an increase of crop value is Diosig because of the consistent increase of the amount of crop obtained here, an increase of 534 RON/ha meaning a percent of 7,7 %.

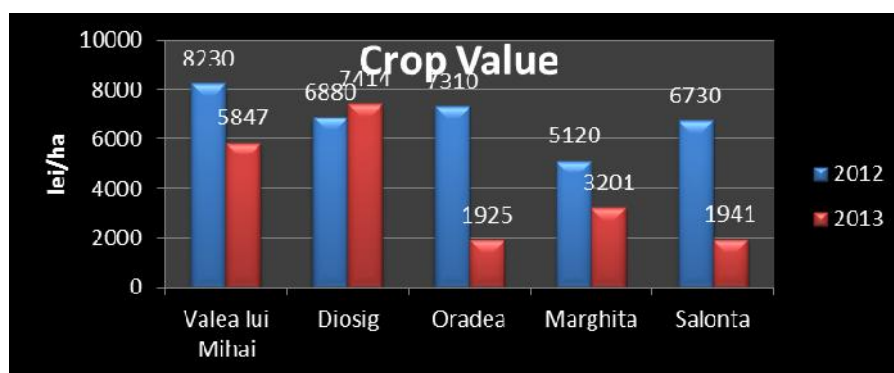


Figure 1 Crop value (RON/ha) 2012/2013 in maize in 5 trial fields in Bihor County

The expenses /t were exactly the same for both 2012 and 2013. We can see that the highest cost was in Marghita, a field located in the Eriului Plains area (590 RON/t). Production costs of over 440 RON/t were also in Salonta (450 RON/t) and Diosig (440 RON/t). The lowest cost were in Oradea (410 RON/t) and Valea lui Mihai (3600 RON/t).

The production cost in RON per ton is shown in Figure 2.

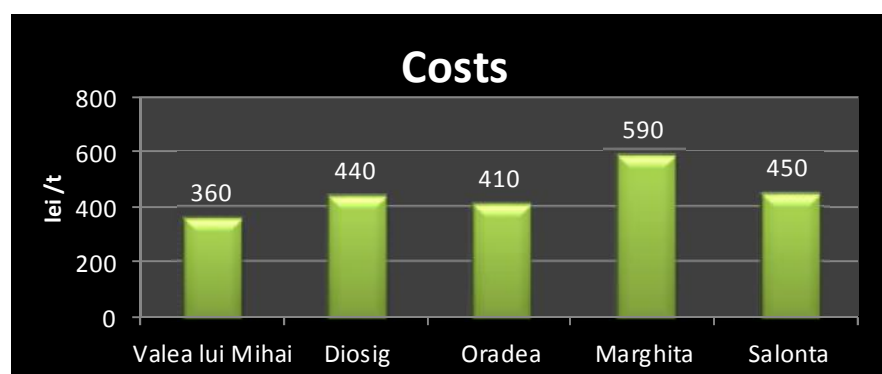


Figure 2. Total expenses (RON/t) depending on hybrid and on cultivation area.

The profit resulted after the subtraction of the total yield expenses varied within very broad limits below 2,120 RON/ha in Marghita (in the eastern part of the county) and over 5,230 RON/ha in Valea lui Mihai (Figure 3) for 2012 and from (-221 RON/ha) in Marghita to 2020 RON/ha in valea lui Mihai in 2013 . Comparing the values obtained in 2013 with those from 2012 it can be seen the same decreasing evolution. Also it is to mention that this last year is one with financial losses especially in the zones wich were affected by natural factors too, like Marghita.

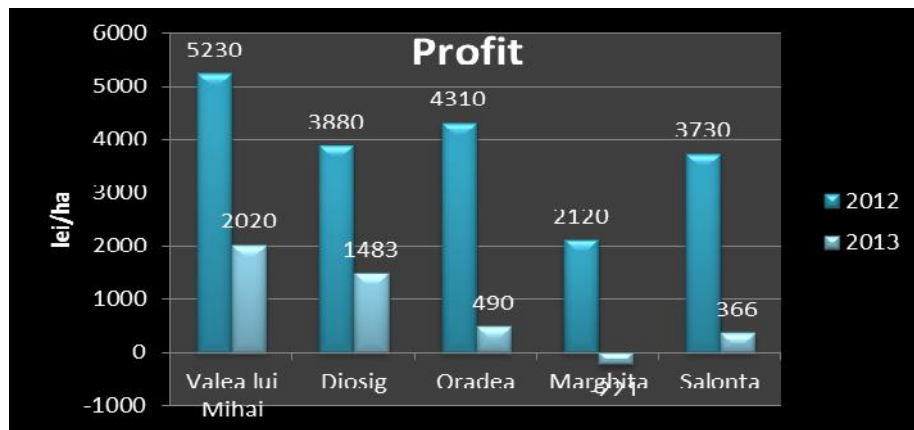


Figure 3. Profit (2012/2013) depending on hybrid and on cultivation area.

The highest profit rate (173%) was recorded in Valea lui Mihai and the lowest one in Marghita (70%) in 2012 and the evolution for 2013 is similar regarding the rentability of the areas , mentioning that the indexes change only because of changing the valorizing price for this last year studied 9 (from -6,5% in Marghita to 53 % in Valea lui Mihai)

The synthetic index we analysed is profit rate, presented for the 11 trial centres (Figure 4).

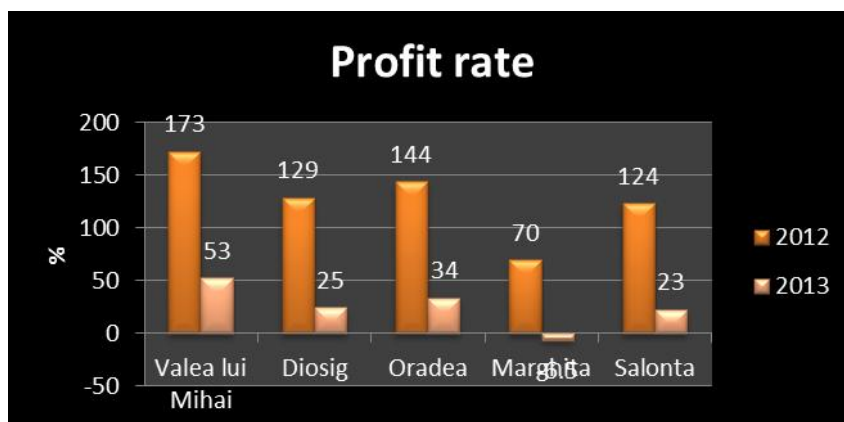


Figure 4 Profit rate (%) 2012/2013 depending on hybrid and on cultivation area

CONCLUSIONS

Economic efficiency indexes pointed out the lack of correlation between the low price of valorising production and the high production expenses

because of the high price of the fertilisers, pesticides, and fuel for both years. If we analyse the indexes is observed that the quantities for crops were better in 2013 than 2012 but their economical values were obviously decreased because of the low valorising price in 2013 (almost a half from the 2012 price) . So the greatest values were registered in Valea lui Mihai area , the conditions of natural factors (soil,weather and others) being an important element that contribute to some improved crops, and the most decreased values for all the indexes calculated in this paper were registered in Marghita zone from Bihor county.

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