

## PRODUCTION RETURN IN ECOLOGICAL AGRICULTURE- ECONOMETRIC ANALYZE

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**Key words:** ecological agriculture, yields, correlation, efficiency

**Abstract:** This study intends to evaluate the Romanian farmers' obtained yields upon the ecological products in the Transylvanian region of Romania. . We will present further, a questionnaire research on this topic knowing that, following the increasing population's awareness concerning the global effects upon the environment and human health, the consumption of ecological food products exploded in the EU. We intended to assess if the ecological yields are increasing correlating to surface as it happens in performing agricultures. We used the statistical correlation tests and the SPSS program for 5 crops: wheat, corn, barley, sun flower and potatoes. No statistical correlation was found on this topic.

### INTRODUCTION

The market of ecological products had in the last 15-20 years an increasing tendency. Starting at the beginning of XX- century from some enthusiastic farmers living in German speaking countries, the scientific ecological agriculture has today in some EU-countries about 10-12%<sup>1</sup> of the total food products market. In Romania the market of agricultural products is not developed but the population interest on it is increasing. No extensive research was conducted in this field of activity so we had the initiative of an exploratory research. It is said that in a performing agriculture the yields of production is increasing correlate to cultivated surface due to the increasing efficiencies in using the production forces.

### MATERIAL AND METHODS

The research was based on questionnaire research, administered to the population especially in the area of Transylvania -the Northwest region of Romania. Each questionnaire had more questions, which were based on general topic about the cultivated surfaces the structure of production and obtained yields. The sample contains 100 random questionnaires, which were accomplished by the farmers belonging to BIOTERRA - the biggest Romanian association for organic farmers. The conclusions and reports were extracted using the SPSS – computer program.

### RESULTS AND DISCUSSIONS

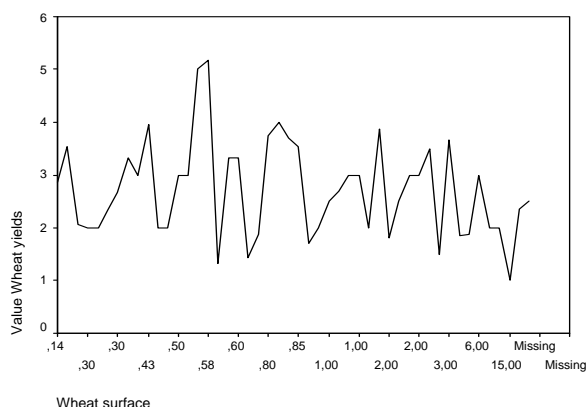
In the pictures 1 to 5 are represented the evolution of the 5 different crop yields, depending on the evolution of cultivated surfaces. To bring into light the possible correlations Pearson –chi square correlation coefficient was calculated.

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<sup>1</sup> [www.organic-europe.net](http://www.organic-europe.net)

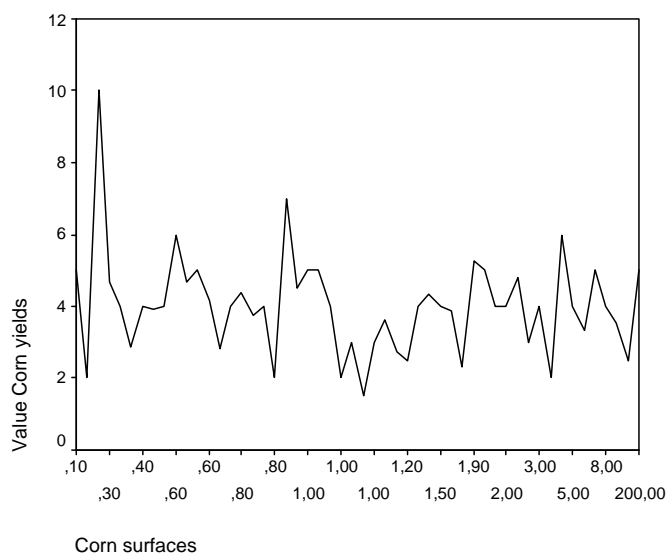
For the wheat the yields evolution related to cultivated surfaces are represented in Fig 1. Calculating the correlation Pearson coefficient we obtained the value of “-0,177” and the “Sig”=0,229. If the “Sig” coefficient is less than 0,05 the correlations is representative at 95% level. In this case calculated Sig=0,229 > 0,05 means that correlations is not representative

Fig 1 – The evolution of wheat samples yields related to cultivated surfaces



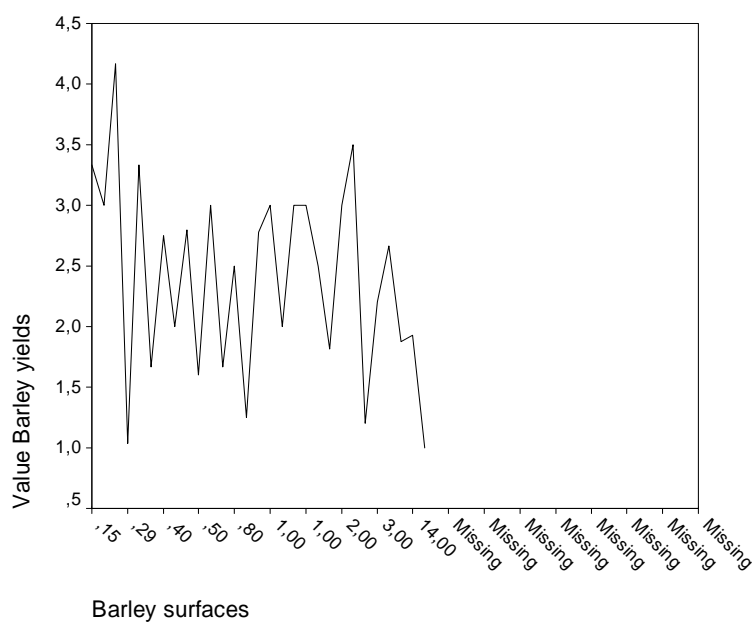
For the corn yields the Sig coefficient of 0,572 and the small value of Pearson coefficient shows that is no correlation between the yields and cultivated surface. The same conclusion can be drawn out from the Fig 2.

Fig 2 – The evolution of corn samples yields related to cultivated surfaces



In Fig 3 is represented the evolution for barley. The calculated Sig=0,064 and the correlation coefficient is -0,349 that means that is no correlation between the yields and the cultivated surface.

Fig 3 – The evolution of barley samples yields related to cultivated surfaces



For the sun flower the sig coefficient is 0,157. The value is bigger than 0,05 that means that no statistical correlation was observed (Fig 4)

Fig 4 – The evolution of sun flower samples yields related to cultivated surfaces



The first explanation – which is more probable, can be a indication that the Romanian ecological agriculture is not still very competitive from the point of view of the yields , knowing also the fact that the mechanical endowment is generally week.

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