

# Trends in ecological agriculture in Romania

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Expert paper

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## Abstract

This work intends to assess the main cultivated crops (surfaces) in Romanian ecological agriculture, and to assess the yields in two different years: 2003 -excessive drought and 2005 excessive rainy year. We also intended to evaluate the evolution in crops “ portfolio” between the years. The main cultivated crops are wheat, sunflower and corn and the production yields are relatively small comparatively to western agriculture especially in the drought conditions of 2003.

**Key words:** ecological agriculture, yields, distribution, surfaces

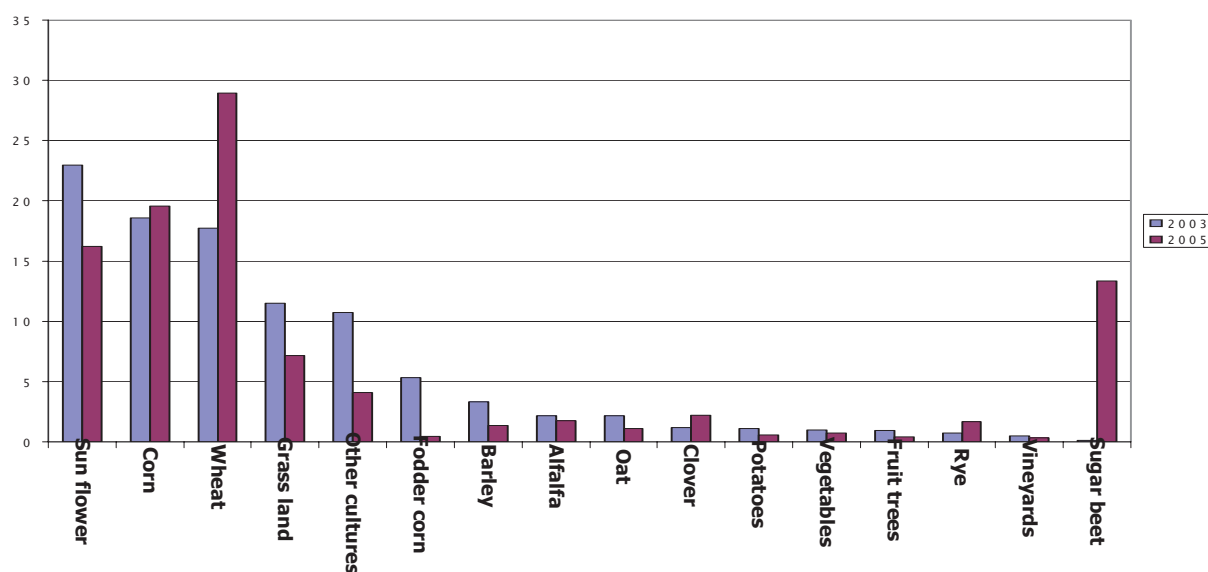
## Introduction

In the years of 2003 and 2005 the University of Agriculture and Veterinary Medicine in collaboration with BIOTERRA – the Romanian ecological farmers’ association have conducted two researches upon the ecological farmers. The first sample (2003) involved 93 questionnaire answers, respectively 191 answers (2005). The topic was related to the structure of cultivated surfaces, the size, and the obtained yields in the two years.

## Results and discussions

In Picture 1 we can see the structure of cultivated surfaces in the two mentioned years. Thus, the most cultivated crops are in both cases the sunflower, corn and wheat. In the year of 2005 we can observe the increasing tendency of wheat –tillage. The weight of fruit trees and vineyards are extremely low thus showing the regress of these sectors. In 2005 it can be ascertained a re-start of sugar beet production.

Picture 1. The distribution of crops depending by cultivated surfaces (%)



Concerning the three main cultivated crops, the wheat and corn, the distribution of cultivated surfaces is shown in Table 1, Table 2 and Table 3 below.

The percentage of farmers cultivating wheat and corn is relatively stable. For wheat, it can be observed an increasing tendency for cultivated surfaces per farm from 0-1 ha to 1-5 ha. The same tendency can be ascertained for corn, and in the same time, the percentage of farms cultivating 5-10 ha, has doubled.

Table 1. The distribution of farms depending on wheat cultivated surfaces

Surface	0 ha	0-1 ha	1-5 ha	5-10 ha	10-20 ha	20-50 ha	50-100 ha	>100 ha
% of total 2003	29.8	67.80	20.34	5.08	1.69	3.39	0.00	1.69
% of total 2005	30.3	45.11	36.8	8	0.75	2.25	2.25	4.5

Table 2. The distribution of farms depending on corn cultivated surfaces

Surface	0 ha	0-1 ha	1-5 ha	5-10 ha	10-20 ha	20-50 ha	50-100 ha	>100 ha
% of total 2003	25	58.73	28.57	4.76	3.17	3.17	0,00	1,59
% of total 2005	25.6	40.14	40.85	9.86	1.41	2.11	1.41	4.23

For the sunflower the percentage of farmers cultivating this crop decrease from 48.8 to 23.6 that meaning that only half of the producers were remaining in 2005 face to 2003. But, as it can be seen in Table 3 the cultivated surfaces per farm are bigger in 2005.

Table 3. The distribution of farms depending on sunflower cultivated surfaces

Surface	0 ha	0-1 ha	1-5 ha	5-10 ha	10-20 ha	20-50 ha	50-100 ha	>100 ha
% of total 2003	51.2	80.49	9.76	4.88	0.00	2.44	0.00	2.44
% of total 2005	76.4	42.22	17.78	17.78	2.22	4.44	4.44	11.11

As concerning the yields obtained for the three most cultivated crops are shown in Table 4, Table 5, and Table 6. As expected the 2003- average yields are lower than in 2005 year. For the wheat, mostly farmers obtained a 1-3 t/ha yield in the drought condition and 4-5 t/ha in the rainy year. The average yields for wheat are bellow the western agriculture yields [3] of 2,5-6 t/ha but in 2005 the production seems to be competitive from this point of view.

Table 4. The percentage distribution of farms depending on wheat yields

Prod/ha	1-2 t/ha	2-3 t/ha	3-4 t/ha	4-5 t/ha	5-10 t/ha	10-20 t/ha	>20 t/ha	Maxim yield t/ha	Average yield t/ha
% farmers 2003	35.42	35.42	25.00	2.08	2.08	0.00	0.00	5.17	2.34
% farmers 2005	10.53	26.32	15.79	39.47	7.89			6.5	3.5

Concerning the corn the average yields is 4,5 t/ha mostly farmers obtaining 3-5 kg/ha in 2003 and an excellent result of 8 t/ha in 2005 face to a 6-7 t/ha in western agriculture.

Table 5. The percentage distribution of farms depending on corn yields

Prod/ ha	0-1 t/ha	1-2 t/ha	2-3 t/ha	3-4 t/ha	4-5 t/ha	5-10 t/ha	10-20 t/ha	Max yield t/ha	Aver. yield t/ha
% farmers 2003		9.62	17.31	36.54	26.92	9.62		10	4.52
% farmers 2005	2.90	4.35	7.25	11.59	17.39	52.17	4.35	12	8,08

For the sunflower the results of 1-2 t/ha were obtained by 60% of farmers in 2003, but in 2005 the weight of farmers obtained 2-3 t/ha is increased.

Table 6. The percentage distribution of farms depending on sun flower yields

Prod/ ha	0-1 t/ha	1-2 t/ha	2-3 t/ha	3-4 t/ha	4-5 t/ha	5-10 t/ha	10-20 t/ha	Maxim yield t/ha	Average yield t/ha
% Farmers 2003	30	60	10					2.5	1.98
% Farmers 2005	25	37.5	31.25	6.25				3.5	2.29

## Conclusions

The ecological agriculture is emerging in Romania. The number of farmers is increasing. The cultivated surfaces per farm are still low but a tendency to increase the surfaces/exploitation can be observed. Some sectors are undeveloped sectors like potatoes, vegetable, fruit trees and vineyards.

The yields are generally inferior to western agriculture, but comparable in case of in favorable weather conditions, thus the ecological production being competitive.

## References

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