FEATURES AND ECONOMIC EFFICIENCY IN AGRICULTURAL SYSTEMS IN IASI COUNTY AFTER EU ACCESSION

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Abstract

The culture system of plants in Iasi county comprises the following subsystems: the structure of crops, used varieties and hybrids, production technologies, system of necessary machines and manpower, measures to prevent and combat diseases and pests, work land improvements necessary to preserve and increase the productive potential of soil.
The position of Iasi county as merging point of three different relief units as potential agro-pedo-climatic - South side of the Plain of Moldavia, south-eastern extremity of Suceava Plateau and the northern half of Central Moldavian Plateau - allows both an agriculture oriented towards crop production and towards animal agricultural production.
In Iasi County 54% of the farmland is owned by individual farms, 26% by other farms, 14% by agricultural companies and only 6% by agricultural associations.
To meet increased competition, agricultural establishments in Iasi will need to tailor different combinations of inputs and capital in order to adapt to the necessities of modernization and peculiarities of the agricultural process. Technological improvements should be aimed primarily to use the inputs that have favourable effects on reducing costs and do not violate the rules on environmental protection.
Until 2013 Iasi County will redefine as an active and dynamic area of development, providing decent living conditions for residents, by turning to good account the agriculture and energy, by taking advantage of human capital and by combining rich tradition with creative and technological modernity.

Key words: culture system of plants, Iasi county, individual farms, development agricultural process.

MATERIAL AND METHOD

To present the results obtained by farms in the county of Iasi were used DARD Science statistical data records and official documents and for their processing and interpretation, there were used analysis methods diagnostic investigation and correlation.

RESULTS AND DISCUSSIONS

The plant culture system means all technical measures, organizational, and economic, aimed at the rational use of the technical, material and human resources in specific farms pedo-ameliorative conditions for obtaining high yields, lower costs per unit based on the product and increase profitability of each product and the entire agricultural activities.

Plant culture system in Iasi comprised the following subsystems: the structure of crop varieties and hybrids range use, production technologies, the system of machines and manpower, necessary measures to prevent and combat diseases and pests, work land improvements necessary to preserve and increase the productive potential of soil.

The position of Iasi county at the contact of three different relief units as agro-pedo-climatic potential - South side of the Plain of Moldavia, south-eastern extremity of Suceava Plateau and the northern half of Central Moldavian Plateau - allows both oriented toward agriculture crop production and for animal agricultural production.

The potential agricultural sector was influenced by many failures which occurred after 1990 in the redefinition of property, farm reorganization, adapting to market economy mechanisms, resulting in a decrease in agricultural production to productive capacity in Iasi.

Regarding ownership, total area last privately owned, has over 90% of agriculture is significant difference between the arable land owned by private producers (89%) and poor technical equipment, in comparison with the area held by agricultural societies, which have a suitable agricultural park.

Of the total agricultural area of 380,277 ha associative system operates in 42.87%, which indicates a relatively high degree of fragmentation

Due to excessive division of private property and agricultural land, relatively high agricultural potential of the county can not be exploited at a level that reflects the real possibilities.

Crops characteristic Iasi county are: maize, wheat, barley, oats, vines, sunflowers, vegetables, forage crops (alfalfa, clover, perennial grasses).

According to DARD Science, crops that could prove profitable for farmers Iasi, such as those of rapeseed and soybean, rapeseed can be used in the production of biodiesel (*fig. 1*).

According to the data presented in Fig. 1 we find the following situation: except oil plants, potatoes and sunflowers, all other cultures have a tendency to increase in areas planted in 2009 compared with 2007, 2008 showing the largest area under cultivation. Although the area planted with sunflower and oil plants have a growing, processing of these plants do not keep this trend, therefore poor storage and lack of processing capacity in the county leads to export them to neighbouring counties or other areas of the country.

Analyzing the evolution of the average yields per hectare in 2007-2009 at the farm level in Iasi is found that there are great differences in most cultures from the national average (*table 1*).

According to the situation presented in *table 1* and *fig. 2* we note that in 2009, regardless of culture, the average production per hectare is lower than the national average Iasi which means that it is highly influenced by the natural conditions (no irrigation), the high degree of fragmentation of agricultural lands, the inadequate facilities in this sector.

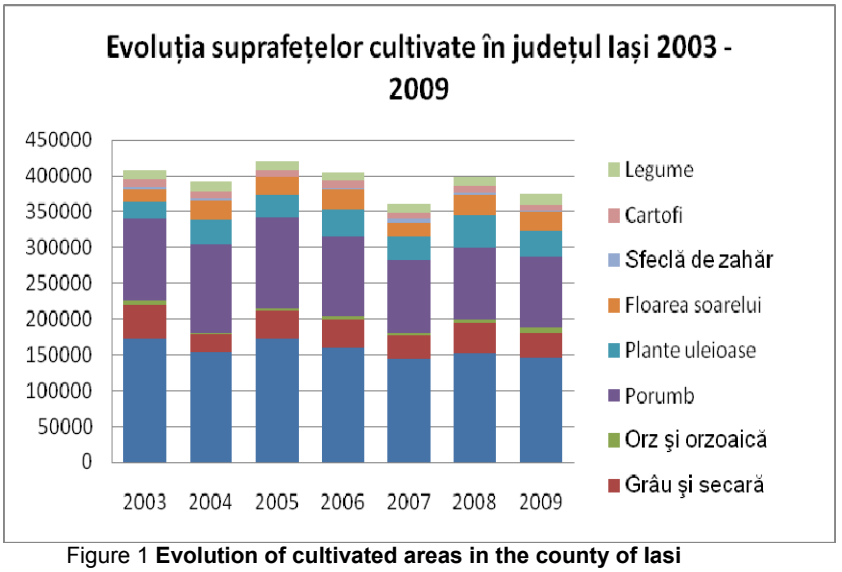

Figure 1 **Evolution of cultivated areas in the county of Iasi**

Table 1

Average yields per hectare of main crops

Year	2007		2008		2009	
	county	national	county	national	county	national
Wheat and rye	3081	2960	2694	2740	1286	1542
Barley and two-row barley	2110	2227	2181	2331	917	1461
Oats	1760	1757	1857	1763	673	1206
Maize grain	3261	3952	3322	3565	737	1526
Sunflower	1359	1381	1737	1540	613	654
Autumn potatoes	12109	13085	14560	14361	4889	13873
Tomatoes	18023	13302	14364	16468	13856	13916
Dry onion	13488	10198	10037	11554	7192	9526
Cabbage	22372	18406	30103	24227	17618	19364
Melons and watermelons	18855	18602	24080	18519	8371	13161

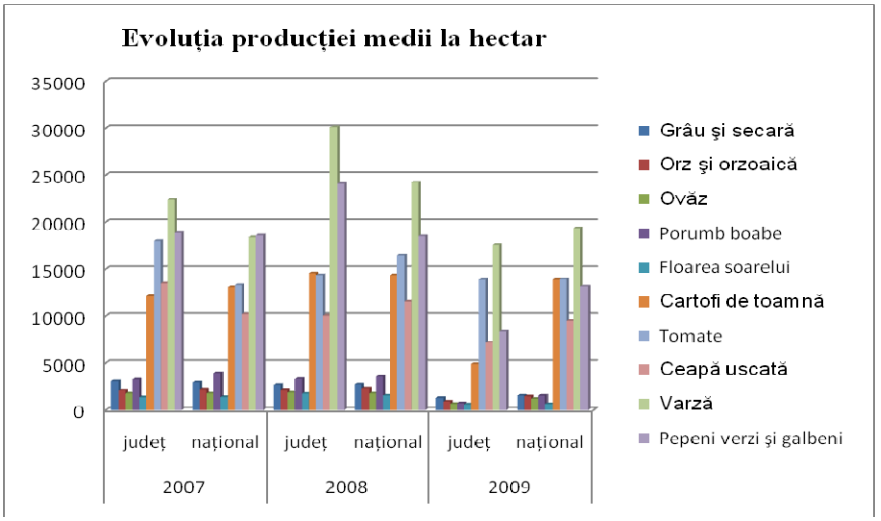

Figure 2 **Evolution of the average production per hectare**

Iasi County is able to cover, for the most part, the need for agricultural products from own production plant (self-consumption and sales to the market), but with a significant decrease in the technical plant.

Excessive fragmentation of ownership has led to a decrease in the degree of mechanization and equipment, lower agricultural productivity and ultimately led to the practice of subsistence agriculture. Therefore it must practice agriculture associations, the vast agricultural areas, building ownership and ensuring the predominance of market mechanisms.

In Iasi County farmland is 54% owned by individual farms, 26% to other farms, 14% by agricultural companies and only 6% of the agricultural associations (*fig. 3*)

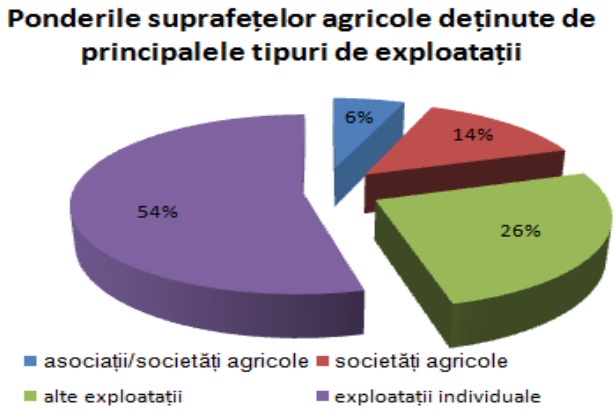

Figure 3 **Weights of agricultural land owned by three main types of holdings**

In order to obtain high yields both in terms of quantity, but quality investments are needed especially in terms of agricultural mechanization, the biological material used, the proper use of chemical fertilizers and pesticides, agricultural irrigation.

According to data from the Department of Agriculture and Rural Development (DARD), Iasi agriculture suffers from poor quality soil and lack of organization of agricultural holdings.

At the level of individual farms dominate agriculture of subsistence agriculture that produces inflation, imbalances generate demand - supply and commodity price increases in the diet of the population, loss of the internal market and increasing import dependence.

Crop insurance schemes and risk prevention of natural disasters are not operational.

Huge labour excess in agriculture and lack of material resources makes the development of the agricultural work to remain very low.

According to data collected from the Agriculture and Rural Development (DARD) Science, in the county are irrigated areas between 2,500 and 3,000 hectares, although the current irrigation possibilities are for an area of 15,000 hectares, while the in 1990 to operate irrigation facilities for an area of over 48,000 hectares.

Considering the fact that it wants to focus on the complete rehabilitation of the systems make them fully operational subsystems rather than invest in the order of rehabilitation should be as follows: small irrigation systems, gravity systems (if not part of irrigated by pumping systems), irrigated by pumping systems viable irrigated by pumping systems viable after rehabilitation.

SNIF Iasi Branch also should pay particular attention to restoring the operation of pumping stations, irrigation systems, where water users are companies, completion and commissioning of Ţuţora-Gorban, Osoi and Probota systems.

The growth and operating systems of animals differ in the complexity and extent of activities, resulting in the concentrated livestock on the farm, the level of specialization and intensification of production, degree of modernization of production technology applied and how the organization production cycle that determines the default rate and continuity of livestock products.

In Iasi County farming systems and exploitation of animals are covered in ownership and given that the companies or associations is the high concentration of livestock production and the degree of specialization more pronounced when compared with private-family farms. (Brezuleanu S., 2009)

In Iasi County there are, according to the level of intensity of production and after the organization of the production cycle, two farming systems: the type of industrial and household type.

The focus of industrial type is characterized by large herds of animals on farms or by organizing specialized sectors in relation to the technological process applied by the use of animal breeds or hybrids of high biological value and productive capacity, driven by modern technology computing, the practice of modern technologies, based on a high degree of mechanization and automation of work processes and using mainly the compound forage.

The household type is mostly applied in private farms, family farms and in some associations. This system is characterized by a lower level of concentration and specialization of animal production by browsing or using shelters with low capacity, lower material and technical equipment, mechanization and automation of work processes reduced.

This system presents some peculiarities: the actual intensity of the system-specific household and industrial-type production system specific. To the latter difference is only in extending the production process resulted in lower livestock (Brezuleanu S. ,2008).

Similar to crop production, animal farming household consumption needs. The potential is not exploited properly; there are possibilities for increasing agricultural production animals (*tab. 2*).

Table 2

Animal farm production

Animal farm production	2006	2007	2008	2009
Meat – total (tonnes live weight)	47496	49268	41818	41074
Beef (tonnes live weight)	9756	3758	5664	4705
Pork (tonnes live weight)	17092	15722	17802	15929
Meat of sheep and goats (tonnes live weight)	3570	2884	3767	2818
Poultry (tonnes live weight)	16903	26869	14581	17609
Milk – total (thousand hl)	2133	2056	2109	2144
Cow and buffalo milk (thousand hl)	2007	1921	1963	2023
Wool –total (tonnes)	637	659	633	778
Eggs – total (millions units)	297	262	183	165
Honey (tonnes)	576	570	480	1238

Sursa: INSSE

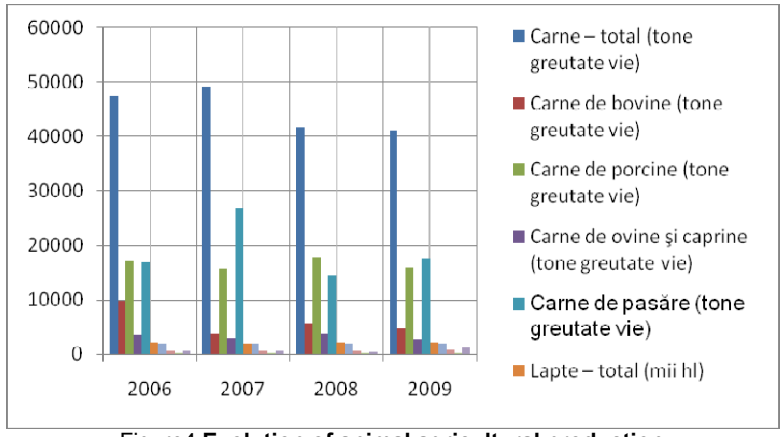

Figure4 **Evolution of animal agricultural production**

The analysis of *figure 4* it is noted that in 2009 recorded a major fall in meat production - total (tonnes live weight) compared to 2007. The evolution of livestock is regressive in all categories of animals except sheep, pigs, goats and poultry.

Also in the animal agricultural production, has a significant weight of pork production (1st), followed by poultry meat. The production of wool and eggs has a downward trend.

Production from poultry meat surpasses the pork production in 2007 and 2009 and in 2006 and 2008 pork production is superior to poultry production.

Evolution of the animals in 2004-2009 shows a downward trend in most categories of animals (*tab. 3*).

Table 3

Animal Staff

Staff (no. head)						
Categories of animals	2004	2005	2006	2007	2008	2009
Cattle Total	115548	117710	106584	107337	105444	105151
Cow milk	62097	60414	59904	56059	53976	50426
Other cattle (buffaloes)	53451	57296	46680	51278	51468	-
Total Sheep	252772	320.286	267441	259980	255298	319973
Goats	9102	10847	10858	11629	11614	12293
Pigs	100324	139161	185688	180560	187627	188715
Birds Total	2686978	3290057	3997879	3652191	3755555	3540598
Laying hens	1743474	1854753	1707472	1855383	2025117	1391085
Horses	51120	53385	50217	50252	47512	43976

Source: INSSE

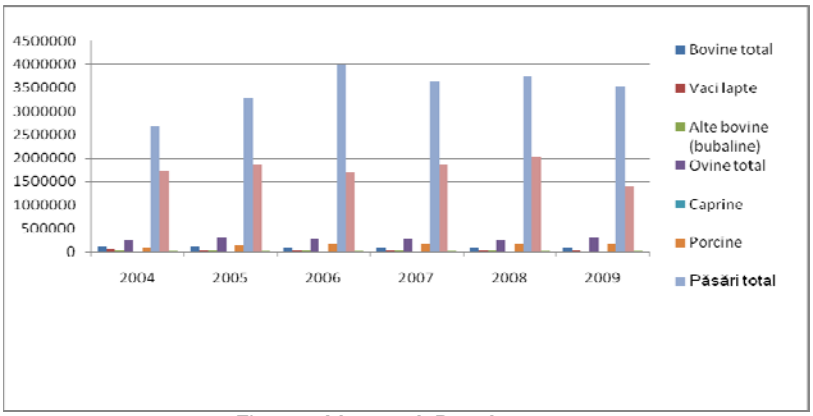

Figure 5 **Livestock Development**

The analysis of *figure 5* shows that the largest share of the livestock is owned by the birds, livestock development is slightly regressive.

Development and modernization of agricultural holdings in Iasi will be achieved through the expansion, improvement and rational use of material and technical resources that are acting in the complex process of obtaining and supply of agricultural products.

In Iasi County agricultural land is operated at a rate of 43% in the associative system and in the proportion of 57% in individual system.

One of the most important ways of development which Iasi County can count on is exploiting the potential of the agricultural sector, for vegetable, fruit, viticulture and animal husbandry. Although it is held in over 57% percent of the associative groups, large or small, however, fails to cross the border to a less prosperous agriculture, except for some known names such as Cotnari Kosarom, Agroindustrial Bucium.

The Iasi county wants to balance urban development with rural areas in the county and this can be fulfilled only by raising the competitiveness of the core business of the inhabitants of rural areas and agriculture. Iasi county's rural areas will develop the core business, agriculture, tending to the European agricultural model, with a policy of increasingly market-oriented developing simultaneously three important functions of agriculture (which are intertwined and non-agricultural rural economy) - economic development and balanced development planning and environmental (economic, environmental and rural-landscape).

In accordance with sustainable development objectives set at European level, the strategy aims at horizontal Iasi county compliance with the principle of sustainable development by focussing on protecting the environment, with direct effects Iasi county rough quality of life.

CONCLUSIONS

Concern in developing farming systems in Iasi County is becoming more evident, consisting of strengthening the European agricultural model with a policy of increasingly market-oriented simultaneously to highlight three important functions of agriculture (which are intertwined and non-agricultural rural economy) - economic, spatial and environmental (economic, environmental and rural-landscape).

European agricultural model can be built in the county of Iasi through CAP aimed at supporting farmers' incomes, while also encouraging them to produce high quality goods demanded by the market and find new ways to improve business, environmental and renewable sources energy. Iasi County until 2013 that will redefine an active and dynamic area of development, providing decent living conditions for residents, the potential of agriculture and energy, by taking advantage of human capital and rich tradition with modernity by combining creative and technological.

County Library will be attractive and concentration by stimulating investment, keeping urban-rural balance and shape of poles following both viable and competitive, and rural development to reduce social disparities, in a process that will cherish and protect the environment.

It is recommended: the development of sustainable farming systems to offset the effects of intensive exploitation of agricultural land in association practicing agriculture, the large agricultural areas, building ownership and ensuring the predominance of market mechanisms, investment in the agricultural mechanization, the biological material used , proper use of chemical fertilizers and pesticides, agricultural irrigation, development of food processing sector - the wine processing areas, vegetables, fruit and meat processing, implementation of technical and economic measures and actions that lead to reducing the negative effects of the factors limiting production (Brezuleanu S. &collab.,2008)

It must also accelerate rural access to European funds leading to the current farm consolidation and the formation of new farms, economically viable.

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