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COMPETITIVENESS OF THE AGRI-FOOD SECTOR AND SUSTAINABLE DEVELOPMENT OF RURAL AREAS

A monograph
edited by

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Chapter 5.

STATE OF STOCK-BREEDING IN UKRAINE

Tatyana Mostenska, Halina Tarasyuk, Ludmila Shapran

Abstract. *The status of livestock, described the structure of the stock-breeding. Discusses the problem of State regulation of livestock are determined. The problems of development of livestock in Ukraine are identified. There are directions for solving these problems.*

Keywords: *agriculture, livestock, stock-breeding, cattle, pigs, poultry, meat production, agricultural enterprises, householders.*

The beginning of 1990s was marked with considerable decrease in subsidies to agricultural producers and change in the state policy of animal husbandry support. Political and economical instability of the last twenty years had negative impact on the Ukrainian industrial livestock complex. Gradual transition from large – to small-scale production had negative effect on state and further development of animal husbandry (*Table 1*), volume of output, structure of production and consumption of meat and meat products.

Table 1. Number of livestock and poultry in Ukraine in 1990-2011 (as of 1.01)

Years	Cattle, thousand heads	% to previous year	Pigs, thousand heads	% to previous year	Poultry, mln birds	% to previous year
1991	24623,4	97,73	19426,9	97,39	246,1	96,47
1992	23727,6	96,36	17838,7	91,82	243,1	98,78
1993	22456,8	94,64	16174,9	90,67	214,6	88,28
1994	21607,3	96,22	15298	94,58	190,5	88,77
1995	19624,3	90,82	13945,5	91,16	164,9	86,56
1996	17557,3	89,47	13144,4	94,26	149,7	90,78
1997	15313,2	87,22	11235,6	85,48	129,4	86,44
1998	12758,5	83,32	9478,7	84,36	123,3	95,29
1999	11721,6	91,87	10083,4	106,38	129,5	105,03
2000	10626,5	90,66	10072,9	99,9	126,1	97,37
2001	9423,7	88,68	7652,3	75,97	123,7	98,1
2002	9421,1	99,97	8369,5	109,37	136,8	110,59
2003	9108,4	96,68	9203,7	109,97	147,4	107,75
2004	7712,1	84,67	7321,5	79,55	142,4	96,61
2005	6902,9	89,51	6466,1	88,32	152,8	107,3
2006	6514,1	94,37	7052,8	109,07	162	106,02
2007	6175,4	94,8	8055	114,21	166,5	102,78

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2008	5490,9	88,92	7019,9	87,15	169,3	101,68
2009	5079	92,5	6526	92,96	177,6	104,9
2010	4826,7	96,82	7576,6	109,33	191,4	107,26
2011	4739,5	98,19	8039,6	106,11	202,1	105,59

Source: calculated according to the data of *Сільське господарство України*, 2011.

We can analyze the changes which occurred after 1990 using the data from *Table 2*. As we can see, cattle stock is constantly reducing and in the last years this reduction menaces the national food supply security. As compared to the data of 1990, cattle stock has reduced by more than 80% (81,2%) and the reduction was 76,8% as compared to 1995 level, 55,4% as compared to 2000 level, 31,3% to 2005 level correspondingly. It shows the fact that the state fails to curb the reduction of cattle stock. As it was mentioned earlier, this can lead to the threat of the national food supply security.

Table 2. Cattle stock dynamics, as of 01.01 of corresponding year

Years	Cattle, thousand heads	Rates of growth for the period, %			
		to 1990	to 1995	to 2000	to 2005
1990	25194,8	100			
1991	24623,4	97,7			
1992	23727,6	94,2			
1993	22456,8	89,1			
1994	21607,3	85,8			
1995	19624,3	77,9	100		
1996	17557,3	69,7	89,5		
1997	15313,2	60,8	78,0		
1998	12758,5	50,6	65,0		
1999	11721,6	46,5	59,7		
2000	10626,5	42,2	54,1	100	
2001	9423,7	37,4	48,0	88,7	
2002	9421,1	37,4	48,0	88,7	
2003	9108,4	36,2	46,4	85,7	
2004	7712,1	30,6	39,3	72,6	
2005	6902,9	27,4	35,2	65,0	100
2006	6514,1	25,9	33,2	61,3	94,4
2007	6175,4	24,5	31,5	58,1	89,5
2008	5490,9	21,8	28,0	51,7	79,5
2009	5079	20,2	25,9	47,8	73,6
2010	4826,7	19,2	24,6	45,4	69,9
2011	4739,5	18,8	24,2	44,6	68,7

Source: calculated according to the data of *Сільське господарство України*, 2011.

As of 01.01.2011, compared to 1990, cattle stock reduced by more than five times, pig stock by nearly 2.5 times. It is necessary to mention that cattle stock and pig stock in Ukraine as of 01.01.2011 nearly equal the data of 1933-1935.

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Pig breeding is a traditional sub branch of Ukrainian animal husbandry which, up to 1914, held the fourth place in the world in the production and sale of pig meat but now Ukraine lags 2-3 times behind the developed countries in the level of pig meat consumption. Thanks to the state program to support domestic pig breeding it became profitable in the last years (in 2009 the level of productivity was almost 12.1%). In Ukraine, two categories of producers are engaged in pig breeding: households and agricultural enterprises. In 1990 the ratio of pig meat production was 27.6% (households) to 72.3% (large scale producers), but in 2010 it changed and the ratio was: 55% to 45% correspondingly. The organization of domestic pig meat production is becoming investment-attractive in the last years thanks to the state “Programme of Pig Breeding Development till 2015” and it positively affects the dynamics of pig stock whose increase totalled 4.7% in the first quarter of 2011.

Changes in pig stock can be seen in *Table 3*.

As of 01.01.2011, there was nearly 60% reduction of pig stock as compared to 1990, 42.7% as compared to 1995, 20,2% as compared to 2000, but starting from 2005 we can see a strong tendency of pig stock increasing. In 2005-2010 pig stock increased nearly by ¼ – by 24.3%.

Table 3. Pig stock dynamics

Years	Pigs	Rates of growth for the period, %			
		to 1990	to 1995	to 2000	to 2005
1990	19946,7	100			
1991	19426,9	97,4			
1992	17838,7	89,4			
1993	16174,9	81,1			
1994	15298	76,7			
1995	13945,5	69,9	100		
1996	13144,4	65,9	94,3		
1997	11235,6	56,3	80,6		
1998	9478,7	47,5	68,0		
1999	10083,4	50,6	72,3		
2000	10072,9	50,5	72,2	100	
2001	7652,3	38,4	54,9	76,0	
2002	8369,5	42,0	60,0	83,1	
2003	9203,7	46,1	66,0	91,4	
2004	7321,5	36,7	52,5	72,7	
2005	6466,1	32,4	46,4	64,2	100
2006	7052,8	35,4	50,6	70,0	109,1
2007	8055	40,4	57,8	80,0	124,6
2008	7019,9	35,2	50,3	69,7	108,6
2009	6526	32,7	46,8	64,8	100,9
2010	7576,6	38,0	54,3	75,2	117,2
2011	8039,6	40,3	57,7	79,8	124,3

Source: calculated according to the data of *Сільське господарство України*, 2011.

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The most irregular dynamics in livestock breeding is characteristic to poultry husbandry. As of 01.01.2011, poultry stock was 79.2% as compared to 1990 level. In general, poultry husbandry is characterized by plunge of poultry stock in 1990-2000 and increase with nearly the same pace in 2001-2010 (Table 4).

Up to 2000, poultry stock reduced to 49.4% of 1990 level. That is, during ten years nearly half of poultry stock was lost. But starting from 2001 there was poultry stock replacement and although poultry breeders didn't manage to gain 1990 level, poultry stock increased by 60% in 2000-2010. In recent years, poultry husbandry has been rapidly developing. As of 01.01.2011, poultry stock rose by more than 30%, as compared to 2005. Such tendency can be explained by rapid working capital turnover in poultry breeding, introduction of closed technological cycle, creation of large enterprises for poultry growth and procession.

Table 4. Poultry stock dynamics

Years	Poultry	Rates of growth for the period, %			
		to 1990	to 1995	to 2000	to 2005
1990	255,1	100			
1991	246,1	96,5			
1992	243,1	95,3			
1993	214,6	84,1			
1994	190,5	74,7			
1995	164,9	64,6	100		
1996	149,7	58,7	90,8		
1997	129,4	50,7	78,5		
1998	123,3	48,3	74,8		
1999	129,5	50,8	78,5		
2000	126,1	49,4	76,5	100	
2001	123,7	48,5	75,0	98,1	
2002	136,8	53,6	83,0	108,5	
2003	147,4	57,8	89,4	116,0	
2004	142,4	55,8	86,4	112,9	
2005	152,8	59,9	92,7	121,2	100
2006	162	63,5	98,2	128,5	106,0
2007	166,5	65,3	101,0	132,0	109,0
2008	169,3	66,4	102,7	134,3	110,8
2009	177,6	69,6	107,7	140,8	116,2
2010	191,4	75,0	116,1	151,8	125,3
2011	202,1	79,2	122,6	160,3	132,3

Source: calculated according to the data of *Сільське господарство України*, 2011.

Changes in cattle and poultry stock led to the changes in the production of the main types of animal husbandry products.

Dynamics of the production of the main animal husbandry products is shown in Table 5. The reduction of production of beef, veal and poultry was prior to the volume of

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meat production in slaughter weight (2.8% and 33.4% as compared to 1990 level, correspondingly).

The production of poultry meat after a plunge up to 2000 (27.3% as compared to the volume of 1990) shows positive tendencies. Starting from 2008, the volume of poultry meat production exceeds the level of 1990 by 12.1% in 2008 and by 26.2% in 2009 (Table 5).

Table 5. Dynamics of production of the main types of animal husbandry products

Meat in slaughter weight	1990	1995	2000	2005	2006	2007	2008	2009
total, thousand tons	4357.8	2293.7	1662.8	1597.0	1723.2	1911.7	1905.9	1917.4
in % to 1990	100	52,6	38,2	36,6	39,5	43,9	43,7	44,0
Beef and veal	1985.4	1185.9	754.3	561.8	567.4	546.1	479.7	453.5
in % to 1990	100	59,7	38,0	28,3	28,6	27,5	24,2	22,8
pork	1576.3	806.9	675.9	493.7	526.1	634.7	589.9	526.5
in % to 1990	100	51,2	42,9	31,3	33,4	40,3	37,4	33,4
meat of poultry	708.4	235.2	193.2	496.6	589.3	689.4	794.0	894.2
in % to 1990	100	33,2	27,3	70,1	83,2	97,3	112,1	126,2

Source: calculated according to the data of *Сільське господарство України*, 2011, p. 117.

Thus, we can speak about the raise in productivity in poultry breeding as when there was a reduction in poultry stock in the research period by 20.8%, there was a ¼ raise in the volume of meat production in slaughter weight (Fig. 1).

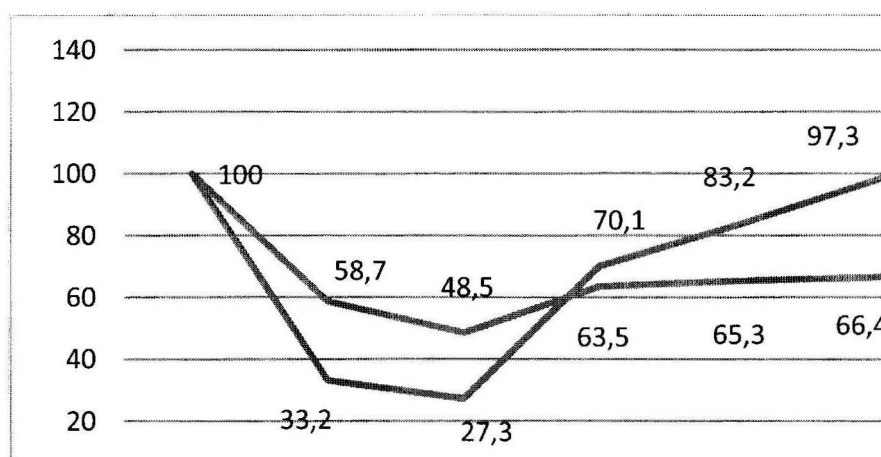


Figure 1. Dynamics of poultry stock and production of poultry in slaughter weight, %% (1990=100%)

Source: calculated according to the data of *Сільське господарство України*, 2011.

The growth of volume of cattle in slaughter weight outstripped in rate the growth of cattle stock but not substantially (Fig. 2). It can be explained by the change in herd structure, distortion of which couldn't overlap the productivity in cattle breeding.

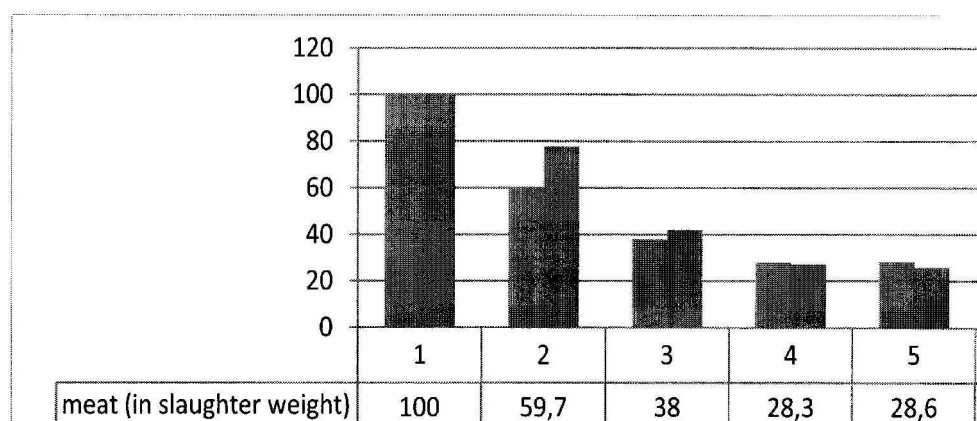


Figure 2. Dynamics of cattle stock and slaughter weight, %% before 1990.

Source: calculated according to the data of *Сільське господарство України*, 2011.

During the research period, meat yield in slaughter weight per cattle head increased by 47 kg (34.1%), however beef and veal yield per cattle head increased by 10 kg or 12.7% during the same period (Table 6).

Table 6. Meat production per cattle head in slaughter weight, kg

Production of meat	1990	1995	2000	2005	2006	2007	2008	2009
Meat per conditional head of cattle	138	96	110	138	149	165	176	185
for 1990, %	100	69,6	79,7	100,0	108,0	119,6	127,5	134,1
Beef and veal per head of cattle	79	60	71	81	87	88	87	89
for 1990, %	100	75,9	89,9	102,5	110,1	111,4	110,1	112,7

Source: calculated according to the data of Kravets, p. 121.

In the last 4 years, the beef and veal yield in slaughter weight per cattle head almost didn't change. In 1995-2000 the production of beef and veal per cattle head increased by 18.4%, in the next five years by 14.1%, but in 2006-2009 this increase was only 2.2% (Fig. 3).

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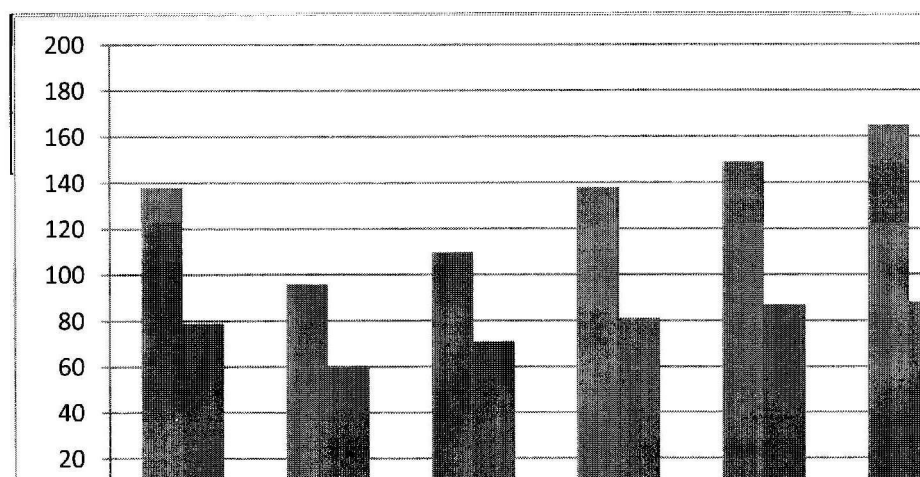


Figure 3. Production of meat per cattle head, kg in slaughter weight
 Source: calculated according to the data of *Сільське господарство України*, 2011.

Meat resources are formed by culturing and feeding of offsprings and disposal of old cattle (cows). That's why, besides the number of cattle, there are other factors which play an important role: correlation of the herd structure and other groups of animals and the organization of cattle growing and feeding (Birta, 2010).

During the research period, the share of cows in a cattle herd grew from 34% in 1990 to 56.7% in 2009, that is, by 22.7% (Table 7).

Table 7. Dynamics of cattle stock and meat production

data	1990	1995	2000	2005	2006	2007	2008	2009
Cattle stock, ths. heads	24623.4	17557.5	10626.5	6514.1	6175.4	5490.9	5079.0	4826.7
in % to 1990	100	71.3	43.2	26.5	25.1	22.3	20.6	19.6
Cows including	8378.2	7531.3	4958.3	3635.1	3346.7	3095.9	2856.3	2736.5
in % to 1990	100	89.9	59.2	43.4	39.9	37.0	34.1	32.7
Share of cows in cattle stock, %	34.0	42.9	46.7	55.8	54.2	56.4	56.2	56.7
Outcome of offsprings, ths. heads	9335.0	7397.0	4874.0	3527.4	3454.1	3135.2	2902.0	
in % to 1990	100	79.2	52.2	37.8	37.0	33.6	31.1	
Breeding cattle in live weight, ths. tons	3248.1	1612.3	1090.1	868.7	861.7	761.7	705.6	694.8
in % to 1990	100	49.6	33.6	26.7	26.5	23.4	21.7	21.4
Sold cattle meat in slaughter weight	1985.4	1185.9	754.3	561.8	567.4	546.1	479.7	453.5
in % to 1990	100	59.7	38.0	28.3	28.6	27.5	24.2	22.8

As it was previously mentioned, there were considerable changes in the structure of cattle stock (Table 8). The share of cattle stock in general herd substantially increased but the share of other livestock decreased nearly in the same proportion. The most substantial

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decrease was in the number of heifers above 2 years of age – nearly 8 times but, taking into account their small number in cattle structure, this reduction didn't lead to the change of their share – deviation was 2,1 percentage points.

Table 8. Cattle stock structure

Cattle	1990	1995	2000	2005	2006	2007	2008	2009
total, ths. heads	24623.4	17557.3	9423.7	6514.1	6175.4	5490.9	5079.0	4826.7
Cows including, ths. heads	8378.2	7531.3	4958.3	3635.1	3346.7	3095.9	2856.3	318.5
% to total	34.0	42.9	52.6	55.8	54.2	56.4	56.2	56.7
Heifers from 1 to 2 years, ths. heads	761.5	667.5	406.6	359.1	384.6	338.3	321.3	318.5
% to total	3.1	3.8	4.3	5.5	6.2	6.2	6.3	6.6
Heifers above 2 years, ths. heads	1507.2	1135.4	496.1	276.1	253.5	220.0	202.7	193.5
% to total	6.1	6.5	5.3	4.2	4.1	4.0	4.0	4.0
Bulls for service, ths. heads	14.1	15.7	15.3	21.6	22.3	18.8	17.8	17.4
% to total	0.1	0.1	0.2	0.3	0.4	0.3	0.4	0.4
others, % to total	56.7	46.7	37.6	34.1	35.1	33.1	33.1	32.3

Source: calculated according to the data of *Сільське господарство України*, 2011, p. 109.

It is necessary to mention that last years are characterized by the fact that cattle breeding was gradually shifted to households (*Table 9*). Thus in 1990, 85.6% of cattle were grown at agricultural enterprises (21083.3 ths. heads), but by the end of 2009, cattle stock in them reduced to 1627.1 ths. heads, which constituted only 33.7% of Ukrainian cattle stock.

Feeding and growing of cows are becoming more oriented towards households – 2131.9 ths. heads (77.9%), cow stock was on households at the end of 2009, that is agricultural enterprises kept only 22.1% of cow herd (604.6 ths. cows).

Table 9. Cattle stock structure by types of agricultural holdings, %%

Cattle	1990	1995	2000	2005	2006	2007	2008	2009
Agricultural enterprises	85.6	78.0	53.5	38.3	37.2	35.1	33.9	33.7
households	14.4	22.2	46.5	61.7	62.8	64.9	66.1	66.3
Cows including								
Agricultural enterprises	73.9	61.0	37.3	23.8	22.8	21.9	21.9	22.1
households	26.1	39.0	62.7	76.2	77.2	78.1	78.1	77.9

Source: calculated according to the data of *Сільське господарство України*, 2011, p. 111.

At the end of 2009, 4652 enterprises herd cattle, among them the majority constituted enterprises with a small number of animals: 568 enterprises had herds under 500 heads (12.2%), 625 enterprises had herds from 6 to 20 heads (13.4%), 559 had herds from 21 to 49 heads (12.0%). Thus, enterprises which herd cattle under 50 heads constituted 37.6%. 612 agricultural enterprises had herds from 500 to 1000 heads (13.2% of the total number) (*Сільське господарство України*, 2011, p. 112).

It is necessary to mention that the average weight of one cattle head, sold to processing enterprises in 1990, was 33 kr or 9,2% higher at agricultural enterprises, but in 2009, with

general 30 kg or 7,6% increase in average weight of one cattle head in agricultural enterprises during the research period, it was 28 kg or 6,2% lower than on households and constituted 423 kg, as compared to 451 kg on households (Fig. 4).

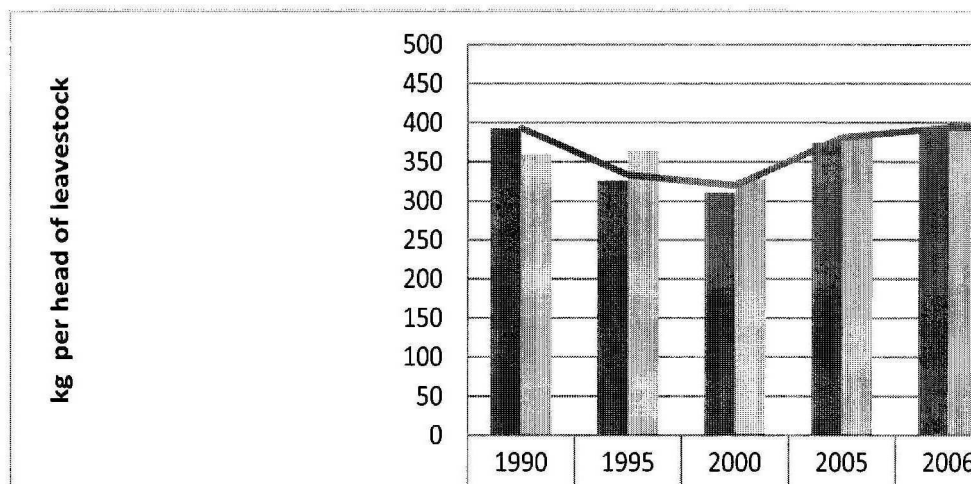


Figure 4. Average weight per head of cattle sold to processing enterprises, kg
 Source: calculated according to the data of *Сільське господарство України*, 2011, p. 121.

Cattle productivity at agricultural enterprises is characterized by substantial fluctuations in the research period. Thus, average daily gain of cattle during growing and feeding periods were higher only in 2008 as compared with the data of 1990 (Fig.5).

In 1990, average daily gain of cattle was 431 g, in 2005 it reduced to 255 g or by 176 g, or by 40.8%. In 2009, average daily gain of cattle was 108.8% as compared to 1990 and constituted 469 g.

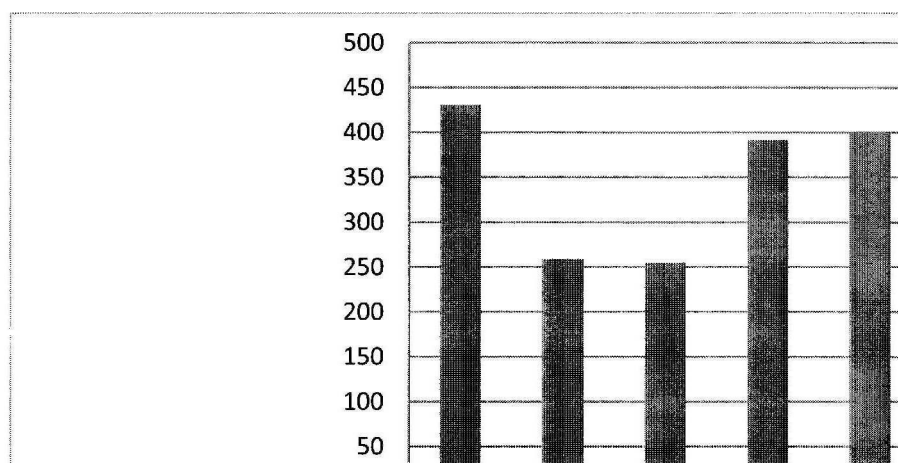


Figure 5. Daily average live weight gain obtained by raising, feeding and fattening of cattle at agricultural enterprises, g
 Source: calculated according to the data of *Сільське господарство України*, 2011, p. 124.

Scientific works' analysis of the development of domestic animal husbandry makes it possible to determine the main causes of cattle stock reduction in Ukraine. The existing tendency of the reduction of beef production is caused:

- Firstly, by the fact that production nowadays is not investment-attractive (more time is needed to achieve commercial weight as compared to the production of pig meat and poultry meat);
- Secondly, by the change in structure of division of cattle stock between agricultural enterprises and households, which doesn't allow to use innovative technologies of feeding;
- Thirdly, by the possibility to meet the needs of meat industry enterprises in raw materials at the expense of raw materials of plant origin and the use of flavourings which allow to substantially increase the output from input goods.

It is necessary to mention, that all developed countries solve the problem of providing the population with high-quality meat and meat products by intensive development of the branch of specialized beef cattle production. In Ukraine, beef is primarily got by slaughter herd replacements and culled cattle of dairy and dairy-meat breeds, share of breeds of beef cattle is only 6.0% of the total number of cattle at agricultural enterprises of all forms of property.

Small part of beef obtained from breeds of beef cattle, in the total production of meat it doesn't have any substantial influence on the increase in the level of its consumption. To make the consumption of beef 30-35 kg per capita in the next few years, it is necessary to develop a branch of intensive beef cattle breeding. It will make it possible to solve the problem of increasing beef production which is possible only by means of specialized beef cattle breeding. According to R. Butko, it is necessary to have 1.5-2.0 mln breeds of beef cattle at enterprises of all forms of property or more than 30% at public enterprises and enterprises of other forms of property (Butko, 2010).

The works of scientists, aimed to scientifically ground the development of beef cattle breeding in Ukraine, testify the necessity to increase cattle breeds depending on the quantity and productivity of dairy breeds. Calculations, made with the use of world experience in the field, show that Ukraine will have lack of beef even with the low milk yield (at the level of 2000 kg of milk per cow) and it is necessary to have 10-20 times more beef cattle stock than we actually have today. With the increase in milk yield from dairy breeds, the beef deficit will rise sharply, and this deficit could only be eliminated by increasing the number of breeds of beef cattle. Ukraine possesses the necessary genebank to develop beef cattle breeding, scientific institutions created information and analytical system "Genebank of Specialized Breeds of Beef Cattle of Ukraine" (<http://news.meta.ua/>).

The rate of changes in pig stock and productivity of pig breeding during the research period are virtually the same, starting from 2005 (*Fig. 6*). The lowest productivity in pig breeding was in 1995 and 2000. The rate of reduction of meat in live weight was higher than those of pig stock by 18,7 and 7,6 percent correspondingly.

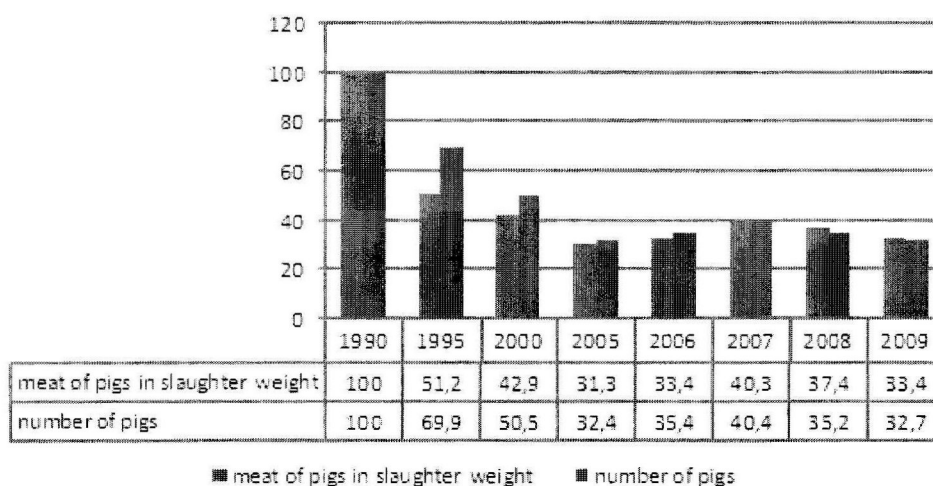


Fig. 6. Dynamics of pig stock and slaughter weight of pigs, % to 1990

The majority of authors link the reduction of meat production with destructive changes which took place in meat production subcomplex (Birta, 2010; Boyko, Mamchur, 2011; Butko, 2010; <http://news.meta.ua>).

Imperfect structure of meat resources, high ratio of poultry meat and low ratio of pig meat, beef and lamb can be characterized as negative phenomena in Ukraine.

At the same time, the production of meat, like any other production, is oriented to satisfy the demand which, in case of foodstuffs, primarily depends on the level of purchasing power of the country population. Poultry meat is nearly three times cheaper than beef or pig meat, which, taking into account low purchasing power of the Ukrainian population, directs consumers to purchase poultry meat as the most affordable in terms of price.

To stabilize and develop animal husbandry, ensure its competitiveness, it is necessary to make more substantial differentiation in governmental subsidies to livestock producers. It is necessary to provide additional payment to producers for sold standard cattle stock and for available breeding livestock.

According to M. Parhomets and P. Putsenteilo, primary task in beef production is to create and restore feeding complexes at sugar refineries and distilling plants. Reconstruction of existing production capacities of feeding complexes, raw material base of processing enterprises and available number of cows in households can ensure annual feeding of 80 ths of cattle heads and production of additional 10 ths tons of beef. Creation and reconstruction of feeding complexes can be held by attraction of foreign investments and domestic capital with maximum assistance of local authorities (Parhomets, 2009).

According to Slavuta, it is primarily necessary to develop a national project which could facilitate domestic husbandry and ensure the production of safe meat raw materials of high quality at reasonable prices in volumes capable to provide rational consumption rates (Slavuta).

There was nearly a 4,25 times decrease in pig stock at agricultural enterprises in the research period. The pig stock at agricultural enterprises was 72,4% in 1990, but in 2009 it was only 43,7% (Table 10).

PART 2. PRESENT-DAY CHALLENGES FOR THE FOOD INDUSTRY

In 2009, 5423 agricultural enterprises were engaged in pig breeding, with the majority 845 (15.6%) having from 100 to 199 pigs, 1776 enterprises had up to 100 pigs which makes 32,7% of the total number (*Сільське господарство України*, 2011, p.113).

Table 10. Structure of number of pigs by types of agricultural holdings, %

Pigs	1990	1995	2000	2005	2006	2007	2008	2009
Agricultural enterprises	72.4	54.4	31.6	36.9	40.4	40.9	41.8	43.7
Households	27.6	45.6	68.4	63.1	59.6	59.1	58.2	56.3

Source: calculated according to the data of *Сільське господарство України*, 2011, p. 111.

Modern pig breeding in the majority of civilized countries of the world is characterized by dynamic development, use of energy saving technologies, increase of production capacities, and constant increase in pig productivity which makes it possible to steadily increase the production of cheap high-quality pig meat. To decrease the level of costs of domestic producers in Ukraine, there is a mechanism of 30% price reduction on domestic equipment but, because of the low quality of Ukrainian equipment and unwillingness of farmers to buy it, this program has but only trifle results. The equipment of modern, newly built and reconstructed pig farms is mainly of Dutch make and a part of farm implements is made by private enterprises according to the foreign samples (Kravets).

The urgent conceptual tasks to be solved in the nearest future to revive domestic industry and increase pig meat production are:

- provoke economical interest of breeding farms to grow high-quality young stock to increase commercial herd productivity of different farm categories;
- establish forage processing to get complete mixed fodders with vitamin, mineral and biological additives of home make;
- create favourable conditions for bank capital in the agricultural sector.

The least changed was the structure of poultry stock according to farm categories. Agricultural enterprises accounted for 54.0% of poultry stock in 1990 and 52.4% – in 2009. Poultry stock at agricultural enterprises experienced the lowest decrease in the research period – 25%. At the beginning of 2010, households had 91092.2 thousand birds (as compared to 113137.6 thousand birds in 1990).

Poultry stock at agricultural enterprises was 132966.6 birds in 1990, and at the end of 2009 – 100354.2 thousand birds.

Table 11. Structure of poultry stock according to the nature of farms, %%

Poultry stock	1990	1995	2000	2005	2006	2007	2008	2009
Agricultural enterprises	54.0	36.1	20.5	41.1	43.4	47.3	49.5	52.4
Households	46.0	63.9	79.5	58.9	56.6	52.7	50.5	47.6

Source: calculated according to the data of *Сільське господарство України*, 2011, p 111.

Poultry is characterized by the largest concentration of production. Thus, according to statistics (*Сільське господарство України*, 2011, p.114) the number of enterprises with more than 10,000 poultry stock was 35.5%, and 201 enterprises (25.5%) had poultry stock above 50,000 birds. Such enterprises can afford the introduction of advanced technologies of

feeding and growing, closed technological cycle, their own fodder supply and be orientated to produce high quality products that may be offered on foreign markets.

The rapid reduction of livestock on farms with low productivity of animal husbandry was not compensated by the increase of livestock on households and it caused the 2.3 times reduction of meat production in slaughter weight from 4.36 million tons in 1990 to 1.92 million tons in 2009.

Reduction of meat production has led to reduced production of meat in slaughter weight per capita in 2009 – 41.6 kg, almost half the level in 1990 (Fig. 7), despite the significant reduction in the population of Ukraine.

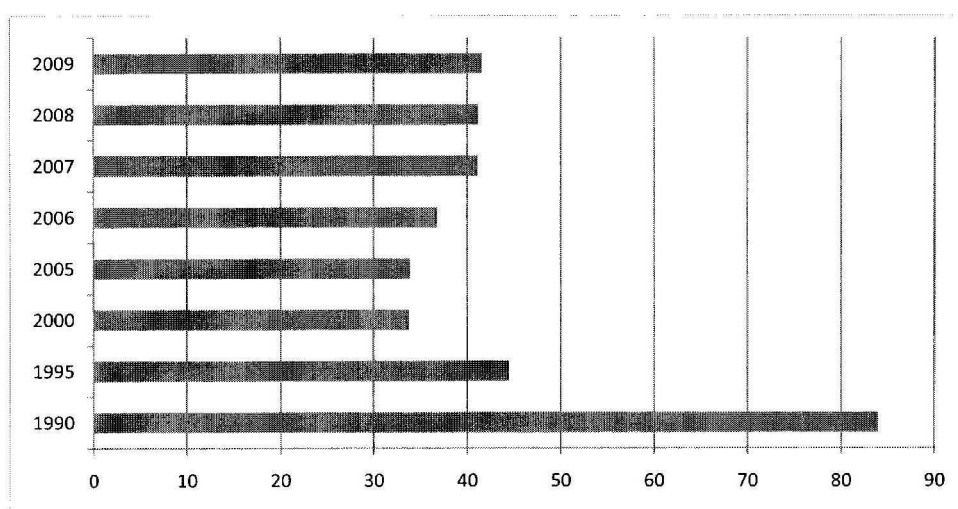


Figure 7. Dynamics of meat production slaughter weight per 1 person, kg

Such situation in animal husbandry is primarily linked with the profitability of livestock production, cattle mainly. In 1990 the profitability of beef production was 20.6%, but during the analysed period, there was a gradual decline and in 2009 its production was unprofitable. According to official statistics, the loss ratio reached almost 33% in 2009. Downward trend in cattle stock is traced also in 2011. Thus as of April 1, 2011 (as compared to a similar date last year) all categories of farms experiences cattle stock reduction by 6.3%.

To solve these problems, the state developed the programs – "State Program of Rural Development till 2015" and "Pig Breeding Development Program till 2015," which, taking into account scientific nutritional standards, offer to increase the number of pigs in different categories of farms to 12.1 mln. tons and pig meat production in live weight to 1.82 million tons. In 2010, pig meat production in slaughter weight was about 600 thousand tons, which is 15% more than the previous year. The share of top 10 agricultural holdings is 26% of the output and in conditions of increasing competition only specialized enterprises which have closed production cycle can meet the needs of consumers.

The sharp growth of the prices of beef and pig meat resulted in a significant increase in demand for poultry meat, which helped to activate the poultry market and was a cause of changes in the structure of meat production in general. The increase in poultry meat production is due to the growth of demand:

✓ from population – poultry meat became a substitute of other meat types for most consumers due to the facts that in recent years there has been a significant reduction in supply of cattle meat, the growth of pig meat production is not substantial enough to cause the

decrease in prices, and a significant number of consumers changed their tastes and preferences in favour of dietary poultry meat. But it should be noted that according to the survey "The largest livestock farms of Ukraine: Development and Prospects", made by the association "Ukrainian club of agrarian business", increase in prices of poultry meat by 10% would trigger an increased demand for pig meat by 15.5%;

✓ from food enterprises, which is caused by the cost of meat raw materials and the possibility of using innovative technologies in the production of sausages.

Increase in poultry meat volume of output is reached by its industrial production. Main factors are: a short operating cycle, investment development of an enterprise, infrastructure development, improvement of veterinary assistance and a program to control the production quality. High efficiency of poultry breeding is based on highly productive breeds, balanced, nutritional mixed fodders and adequate housing conditions. Poultry meat production is more attractive than production of other kinds of meat. Feed cost to produce 1 kg of poultry meat is considerably lower, for poultry feed-gain relationship is 2-3:1, for pigs it is 4-6:1. This determines the tendency to increase poultry meat production and poultry stock increased by 15,3% in the first quarter of 2011. Characterizing the development of poultry breeding in Ukraine, it is necessary to mention that in spite of low purchasing price of domestic poultry meat as compared to other meats, the price of imported poultry meat is even lower. In such conditions it is necessary to use more strict protectionist measures as to the poultry meat import.

Situation in livestock which is the first chain in meat production subcomplex influences other chains of the complex and that's why livestock competitive growth, cattle stock especially, remain urgent problem in Ukraine. V. Boiko, M. Malik, V. Messel-Veseliak, P. Sabluk and others analyzed these questions. According to them, determining the directions of competitive growth of livestock production nowadays depends directly on the policy of state regulation. State policy should be oriented at providing the country population and domestic meat processing plants with high-quality domestic meat products, import of these products is always unpromising and not always safe in respect to quality. The main proposals to improve the existing system of state regulation are:

- improving existing regulatory legislative acts taking into account the requirements of international organizations;
- improving regulatory legislative acts of standardization and certification of livestock products;
- developing insolvency proceeding and reorganization of failing enterprises;
- organizing the necessary special support of state and regional budgets to beef and pig meat producers;
- giving 3% or even noninterest bearing credits to beef and pig meat producers for 5-10-year periods;
- creating a single state land bank which could satisfy farmers' needs on advantageous terms in case of observing determined obligations;
- improving the system of insurance against agricultural risks.

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