Agriculture

Ukraine has a favourable natural environment for the development of farming, which has been the traditional occupation of the rural population since ancient times. The percentage of land that is classed as agriculturally productive is well above the European average. 86% of the country's territory or 56 million hectares (representing 15.8% of Europe's productive land area, excluding Russia) is potentially cultivable. This remarkable potential for farming is due to the frequent occurrence of loess covered plains and uplands, and the high fertility soils that have developed upon them. High quality chernozems are found over three quarters of Ukraine, which is the highest percentage for any country on Earth. With respect to the area of potentially cultivable land, measured per capita (0.67 hectares/person) Ukraine is second to none in Europe. It is for these reasons that the foreign trade balance has been continually positive with the exception of the 1992–1993 growing season.

Presently, the **agricultural potential** of the country is insufficiently utilised due to inferior technology and poor economic conditions. Further progress in the farming sector is also being curbed by a series of unresolved issues relating to land reform, the lack of financial and technological support for agriculture, disparities between prices for industrial commodities and farming produce, and slow social progress in rural settlements. All these have led to a depreciation of fixed assets, decline in production volumes and to the decrease in the productivity of labour (*Figures 60 and 61*).

Fig. 60

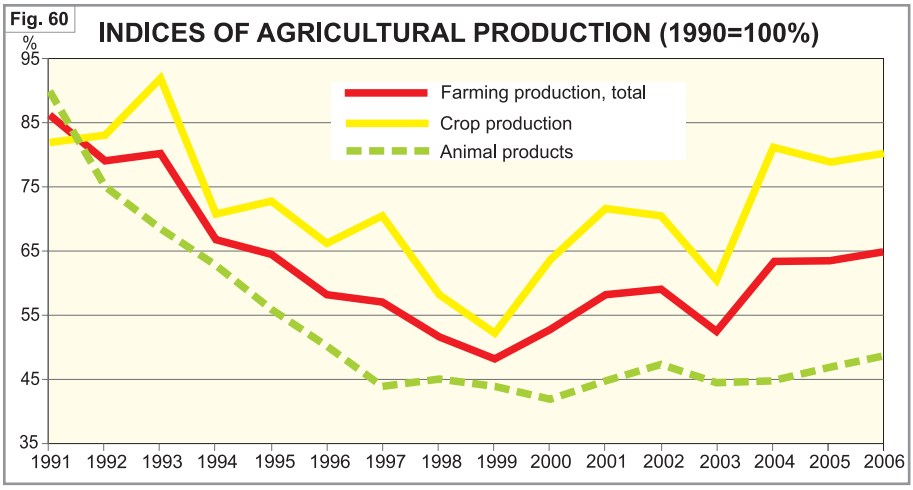
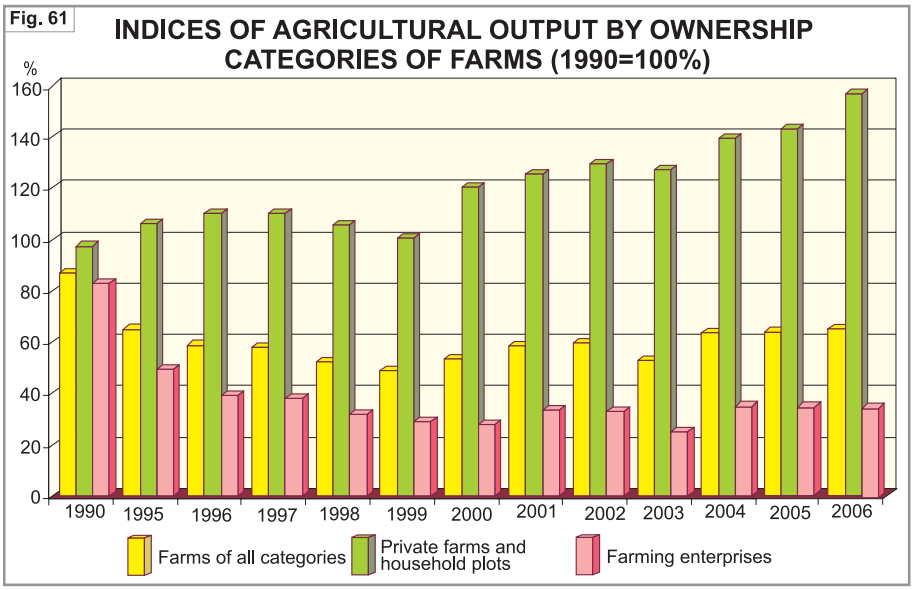


Fig. 61



Agricultural output fell dramatically in Ukraine during the period between gaining independence and 1999. The latter year represented a turning point, yet farming production, even in 2006, reached a mere 65% of the level in 1990. The crop cultivation sector suffered a lesser decline (reaching 80.2% of 1990 levels by 2006), compared to that of animal breeding (49.2%). The 1990s saw crop cultivation expand at the expense of animal husbandry,

owing to the fact that natural conditions proved to be more favourable for the former agricultural sector. The share of crop cultivation passed the 50% threshold in 1992, and continued to rise in a prolonged trend, with values over 60% by the 2000s (*Table 16*). Since 2003, animal breeding has ensured the further expansion of farming, showing a slight growth within that branch.

the arable land hosts low efficiency enterprises extending over 1000 ha. They produce ca. 35% of the agricultural output. There has been a sharp decline in the share of large enterprises in animal husbandry, from 70% of meat production in 1990 down to 30% at present.

In contrast, most enterprises operate on *holdings* of less than 50 ha, even though they

Table 16. ***Dynamics of the structure of agricultural production between 1990–2004 (in adjusted prices, % of 2000)***

	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Agricultural production	100	100	100	100	100	100	100	100	100	100	100
Output of crop cultivation	**50.1**	**56.7**	**57.0**	**61.6**	**56.4**	**54.3**	**60.4**	**61.6**	**59.9**	**57.7**	**64.3**
Cereals	21.2	20.9	17.4	25.3	21.1	20.6	19.5	28.3	27.2	16.4	27.7
Industrial crops	7.3	7.7	6.7	5.9	5.7	6.5	6.6	5.5	6.0	7.5	6.2
Potatoes, vegetables and melons	10.5	16.6	21.2	19.5	21.3	19.9	25.5	21.3	20.4	25.3	23.3
Fruits, berries and grapes	3.8	3.7	4.6	5.4	3.0	2.5	4.2	3.0	3.1	4.7	3.9
Fodder crops	6.6	5.8	5.2	5.4	4.7	4.0	3.6	3.3	2.9	3.1	2.6
Other products and changes in incomplete production	0.7	1.9	1.9	0.1	0.6	0.8	0.9	0.2	0.2	0.6	0.5
Output of livestock breeding	**49.9**	**43.3**	**43.0**	**38.4**	**43.5**	**45.6**	**39.6**	**38.4**	**40.1**	**42.3**	**35.7**
Livestock and poultry	29.0	21.3	20.8	18.2	21.3	22.2	19.2	18.6	19.3	19.4	16.2
Milk	15.4	16.8	17.0	15.1	16.7	17.4	15.0	14.5	15.0	16.4	13.8
Eggs	3.7	3.3	3.4	3.3	3.6	4.1	3.8	3.8	4.1	5.0	4.3
Other products	1.8	1.8	1.8	1.8	1.9	1.9	1.6	1.5	1.4	1.5	1.4

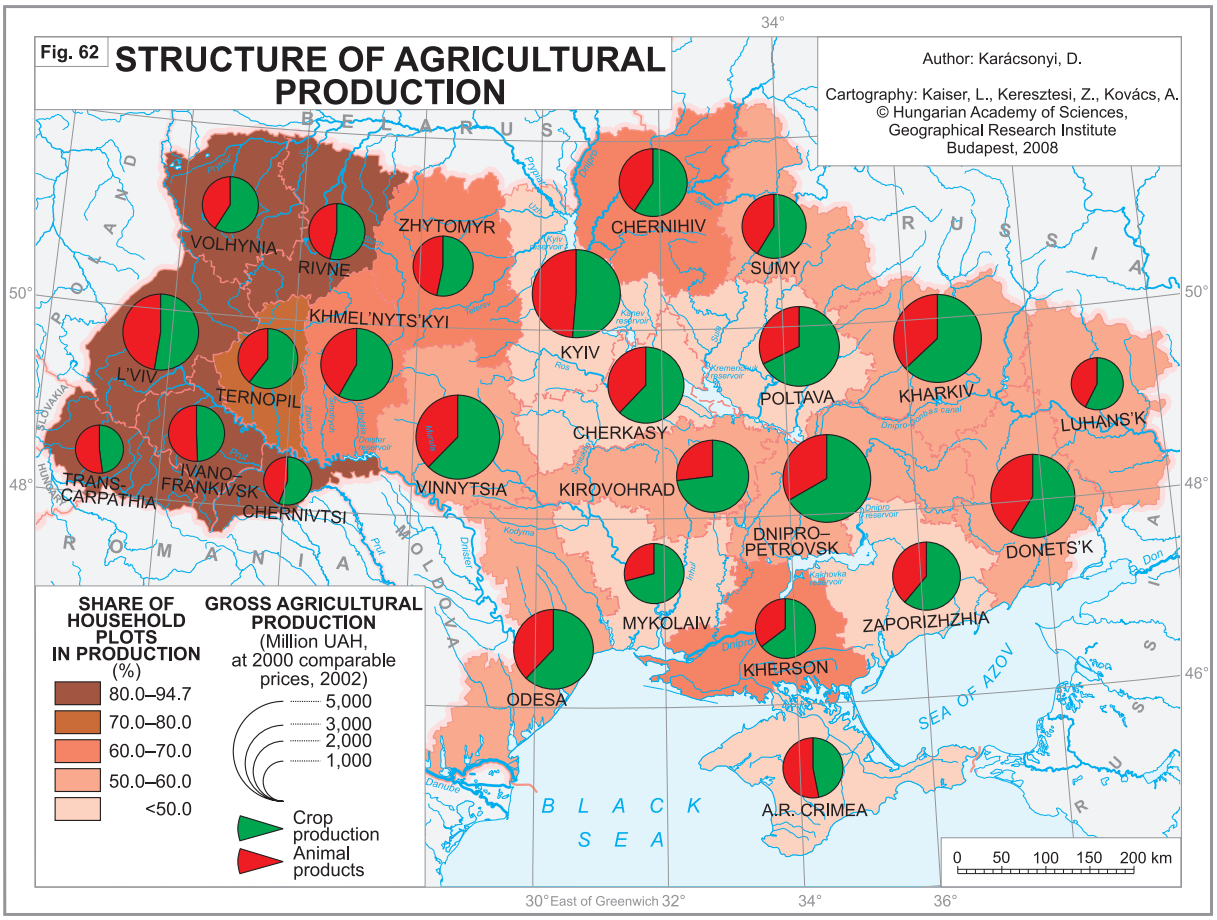
Source: Ukraine in Figures 2004

In spite of the shift towards crop cultivation, the area of ploughland (33.4 million hectares in 1990) had shrunk by ca. 2.2 million hectares by 2003, i.e. by almost one tenth. The drop in yields can be explained primarily by adverse technological standards and poor economic conditions.

Nowadays much less fertiliser is applied, i.e. ca. 20 kg per hectare vs. 141 kg in 1990. Reduction in the number of livestock has caused less manure to be spread over fields: 8 tons per hectare in 1990 compared to just over one ton presently. Farming technology, including machinery has grown obsolete. During this period the number of tractors dropped to 60% of original numbers (80 ha of ploughland per tractor in the early 1990s, compared to 140 ha. in 2002), whilst that of combine harvesters halved.

Farming enterprises grouped by the size of their agricultural land show a similar pattern as witnessed in previous times and extremes are characteristic. Farms of optimum size (100–500 ha) occupy only 7% of cropland, whilst 80% of are responsible for 60% of agricultural production, on only 3–4% of the total crop area. Within the sphere of *private farms,* Ukrainian statistics distinguish between farms (over 2 ha of land area) and household plots (up to 2 ha). The latter number more than six million, with an average size of one hectare. Farming that is labour intensive is typical of these types of smallholding. These farms and household plots produce 67.8% of meat, 81.6% of milk, and 53.7% of eggs.

In the west of the country, private farming on small plots dominates, providing over half of agricultural output in the environs of Kyiv and in Crimea, although elsewhere its share is less. Large-scale production plays a subordinate role in areas notable for private farming. Moreover, private sector farming is relatively significant in Donbas (auxiliary farms) and in Kherson oblast (intensive horticulture). Animal breeding has achieved prominence in areas that have unfavourable conditions for crop cultivation, e.g. in the Carpathians and some parts of the arid steppe (*Figure 62*).



Crop production. Cereals, sugar beet and sunflowers are the three types of crop fundamental for Ukrainian agriculture, being not only the principal source of domestic food supply but also the main products underpinning the export effort in the domestic agrifood economy. As regards crop production, Ukraine is a leading country and a key player on the world market, but it has been giving away its market share of late. Sugar beet has been the primary loser, but the output of grain crops has fallen as well (*Table 17*).

The extension of ***agricultural territory*** reaches the highest percentage in the forest steppe and steppe areas, i.e. in the south-east of the country, and the smallest in the Carpathians and Polissia (*Figure 63*). The *sown area* totalled 25.9 million ha in 2006; the past 16 years has witnessed a structural rearrangement of the basic crops grown on this land. The percentage of the sown area bearing cereals and leguminous crops has increased from 45% to 56%, and from 6.4% to 7.8% for land bearing potatoes, vegetables and melons. For industrial crops the increase has been from 11.6% to 23.6%, whereas the ratio of land cultivating fodder crops dropped from 37.0% to 12.6%. Cereals occupy half of the sown area; in the west fodder crops and vegetables prevail whilst in the east industrial crops dominate.

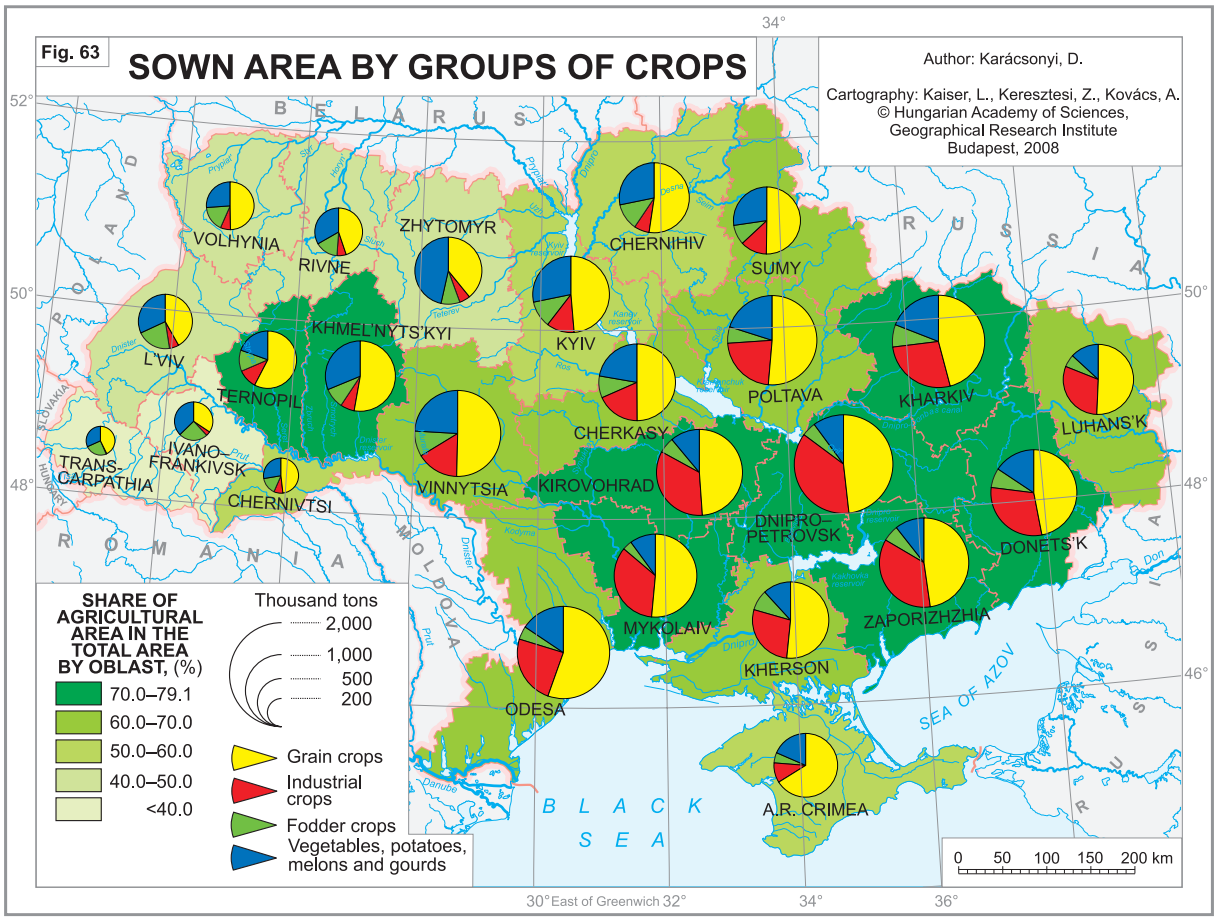
Table 17. ***Global output of selected crops: Ukraine's ranking***

	1992–1994	2004–2006
Wheat	7.	11.
Sunflower seed	4.	2.
Sugar beet	2.	5.
Potatoes	4.	4.

Source: www.fao.org

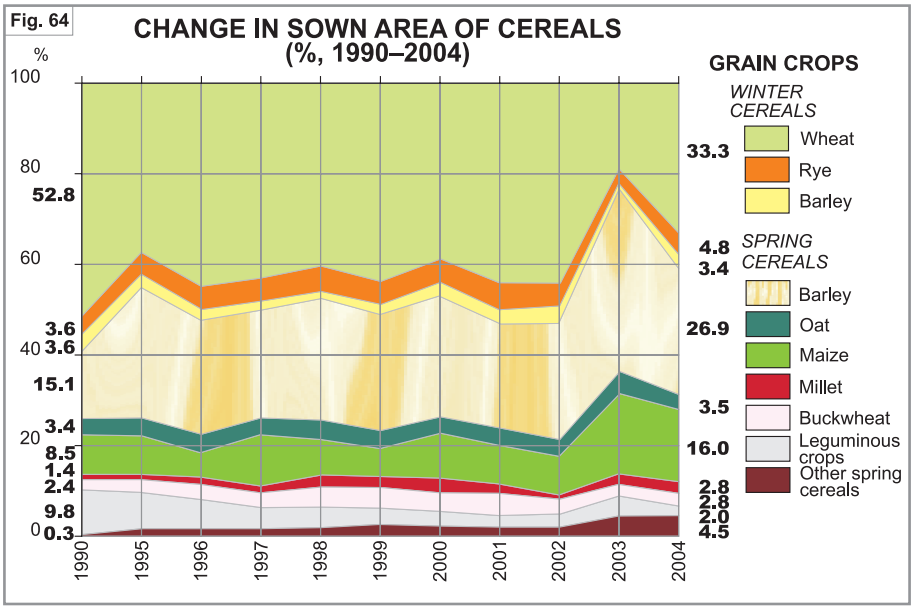
Cereal production in Ukraine traditionally belongs to a sphere of strategic priority for farming development, and in the national economy in general. Over a long historical period, cereals have occupied over half the arable land, and by output of grain per capita Ukraine has always been among the leading 6–7 countries of the world.

From 1990 to 2006 there has been a sore lack of state support for cereal production, which



had led to a drop in output (from 51.0 million tons in 1990 to 34.2 million tons in 2006). Structural changes have seriously affected the extension of the sown area and the output of grain crops. Winter cereals have reduced, whilst grain crops with lower ecological requirements (e.g. spring wheat) have spread (*Figure 64*). Yields of grain crops as a whole have shown a downward trend, from 3.51 tons per hectare to 2.83 t/ha. 2001 was a turning point, where the seeds of recovery from a crisis situation were sown in this key agricultural sector, with its harvest of 39.7 million tons of grain. The threshold of 40 million tons allows the state to fully meet its consumption requirements, to establish seed reserves and provide a firm basis for stall and pasture feeding to support animal husbandry.

Although the sown area of ***industrial crops*** has expanded considerably (from 3.8 to 5.0 million ha), output has experienced a 2.6-fold



shrinkage over the same period. There has been a marked realignment in the sown area of the two basic industrial crops, i.e. sugar beet and sunflower. From 1991 onwards, the land bearing the following crops has experienced considerable shrinkage within the total sown area for industrial crops: long-stalked flax – from 4.6% to 0.8%, sugar beet – from 42.8% to 15.1% and hemp – from 0.3% to 0.1%. At the same time, land bearing sunflower has increased dramatically from 43.6% to 70.8% (*Figure 65*).

Sugar beet. Ukraine is a country with a long tradition of sugar production. Due to favourable soil and climatic conditions, along with highly productive technology the country has been among the leading national exporters in Europe, even if most of the latter produce sugar from sugar cane. Growth in production lasted for 30 years (1960–1990), but this success has vanished over the recent past (1991–2006) owing to significant shrinkage in the sown area (from 1,607,000 ha to 815,000 ha). During this period there had been a drop in the total output (from 29.6 to 22.4 million tons), a 6–8-fold decrease in the use of mineral fertilisers. 3–4 times less manure was used, and the purchase of technical equipment decreased 14-fold. The branch has also been adversely affected by an economic crisis arising from the transition into an unregulated market economy and hit by a massive privatisation of the sugar industry. Overcoming this situation and a revival of the sugar industry on the basis of increasing its competitiveness on the world market has become a national challenge, although most agrarian economists do not consider sugar beet cultivation to be an agricultural branch with rich prospects for the future.

The share of *sunflower* more than doubled within the sown area, its total annual output rising from 2.6 m to 5.3 m tons from 1990 until 2006. Over the same period yields dropped from 1.58 to 1.36 t/ha, therefore an eminent, current task is the application of sophisticated technologies in order to achieve higher yields for this industrial crop.

In 2004, 16,000 tons of *long-stalked flax* was produced in comparison to 108,000 tons in 1991. Over the same period, the sown area had fallen from 172,000 ha to 38,000 ha, and yields (fibre) dropped from 0.64 to 0.5 t/ha.

Potatoes. Ukraine is one of the leading nations in the output of this crop, second only to Russia among the successor states of the USSR. Potatoes account for 24% of all farming activities in 2004 (at adjusted prices). The planted area was 1,464 thousand ha, and the total output amounted to 19.47 million tons (2006).

Vegetables. During the 1990–2006 period, total vegetable output rose from 6,666 thousand to 8,058 thousand tons with a concomitant growth in the planted area by 127,000 ha, whereas yields remained unchanged.

Production of individual crops is concentrated in various regions of the country. Cereals and sunflowers are typically grown in the south-east, potatoes are dominant in the north-west, and sugar beet is predominant in the central part of Ukraine (*Figure 66*).

Animal husbandry. The fundamental difference in comparison to the earlier Soviet period is that fodder grain was produced in insufficient quantities to feed the animal stock and had to be imported; nowadays meat itself is imported so the stock has been correspondingly reduced. Consequently, less fodder is needed and grown at present.

Within the gross output of the farming sector, livestock, poultry and animal products were

Fig. 65

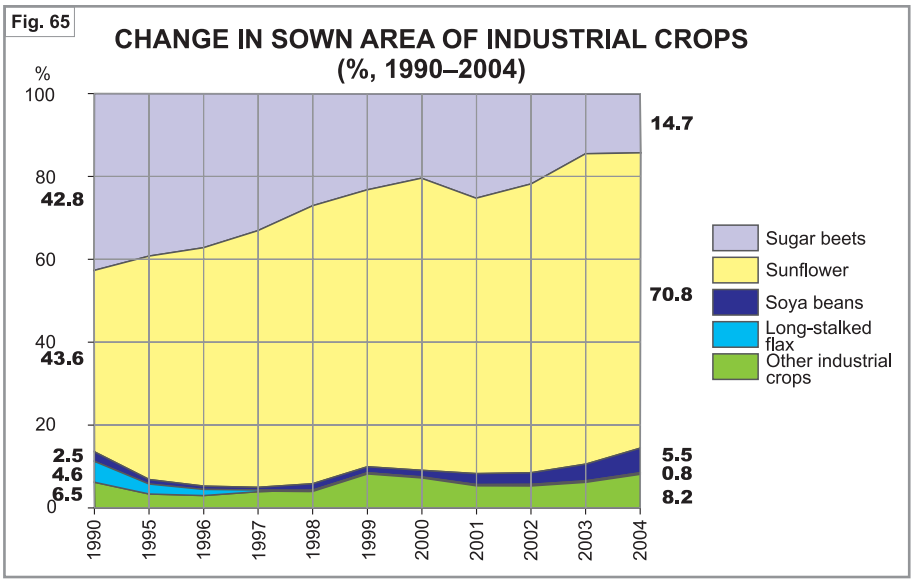
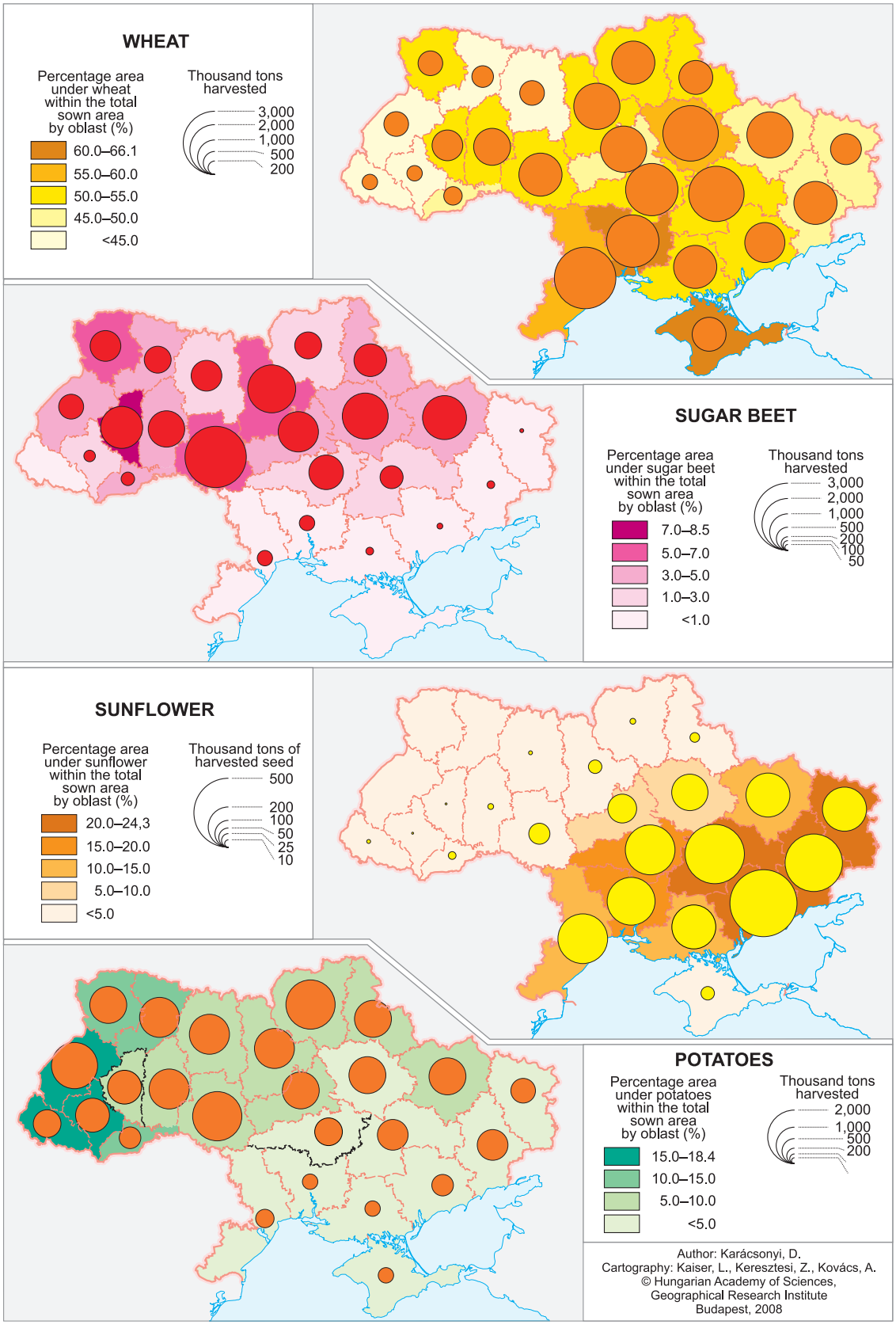


Fig. 66

OUTPUT OF MAJOR CROPS (2002)



Author: Karácsonyi, D.
Cartography: Kaiser, L., Keresztesi, Z., Kovács, A.

Geographical Research Institute
Budapest, 2008

responsible for 38% in 2006. The current cattle stock is today a quarter of 1990 levels, although numbers of cows have been less heavily reduced (to 40% in 2007), indicating the importance of the dairy industry. Stocks of hog and poultry have, of late, shown a slow growth relative to other domestic animals, although the former has reached a mere 40% of the 1990 volume. A minimum decline has affected poultry stocks (*Figure 67*).

Meat production. In 2006, 1,723 thousand tons of meat of all kinds was produced on the farms across Ukraine. Its distribution was in the following manner: beef and veal – 32.9%, pork – 30.5%, poultry meat – 34.2%, mutton and lamb – 0.9%, rabbit meat – 0.8%, horse meat – 0.8%. The years between 2002 and 2004 saw a stable trend of growth in meat production and consumption, with the latter eventually reaching 34.5 kg per capita.

Milk production. Over the past years – due to objective and subjective reasons – dairy farming in large scale units of production has suffered from adverse changes, which has led to similar shifts in the output of the dairy industry, a weakening provision of milk and dairy products from dairies themselves, and to the fall in overall consumption by the population. At present there is a slow recovery in numbers of dairy cattle on farms of various types; milk production from these farms represent a mere 0.6% of total milk output. Between 1990 and 2006, the number of cows in private farms had grown by 0.8 million (37.4%) and milk production increased by 6.3 million tons (105%). However this growth in the production capacity of small farms could not compensate for the decline in large-scale enterprises. The consumption of milk and dairy produce continued to decrease in 2004, by which stage it was 226 kg per capita (in milk equivalent).

Under the present circumstances, in order that cattle breeding be developed, certain measures have been taken to stabilise the numbers of dairy cows and prevent a further reduction of stock, with a concomitant and intense growth in its productivity. In order to solve problems preventing the revitalisation of dairy stock and further develop breeding, it will be necessary to change the fodder structure, standards of feeding should be raised and the quality of fodder improved.

Poultry. The share of poultry farming within the gross output of agriculture is around 6%, and within animal breeding it reaches 15%. This branch provides 23.5% of the gross volume of meat produced. An overwhelming share (76%) of poultry stock is concentrated in private farms.

Due to the large territory of the country, differing zones have a profound influence on the spatial pattern of agricultural production. Regions largely follow climatic and soil characteristics, i.e. agroclimatic zones. Additionally, production intensive raions have formed around the urban centres, catering for the supply of these towns and cities. In Crimea, subtropical climatic conditions have shaped specific farming regions, whereas in the Carpathians, vertical zonality is responsible for the differentiation of agricultural production. There are seven large agricultural regions on the territory of Ukraine. The forest zone is dominated by animal husbandry (breeding dairy cattle), whereas in the forest steppe crop production prevails (wheat, sugar beet, and further south, maize). Livestock and poultry breeding is much more limited in the steppe zone (*Figure 68*).

Fig. 67

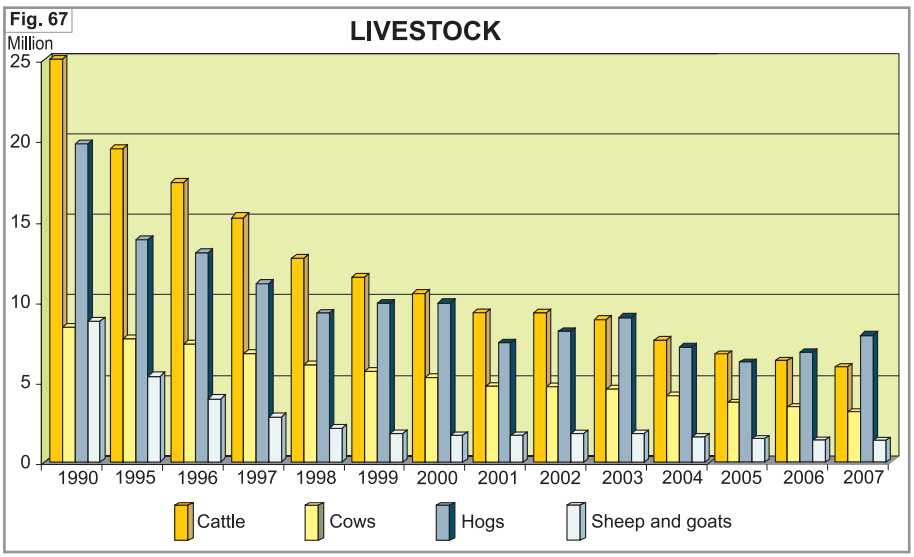


Fig. 68

AGRICULTURAL REGIONS

TYPES OF AGRICULTURAL REGIONS

I. Animal breeding of intensive type

1. Beef and dairy stock, flax, potatoes
2. Beef and dairy stock, sugar beet, flax, potatoes
3. Beef and dairy stock, flax

II. Intensive crop cultivation and animal breeding

4. Grain crops, sugar beet, beef and dairy stock, hogs
5. Grain crops, sugar beet, fruits, beef and dairy stock
6. Grain crops, sugar beet, fruits, beef and dairy stock, hogs

III. Crop cultivation and animal breeding

7. Grain crops, sunflower, beef and dairy stock, hogs
8. Grain crops, grapes and fruits, vegetables, beef and dairy stock, hogs, sheep, poultry

IV. Crop production specialising in fruits, grapes, perennial non-foods, and vegetables

9. Grapes, fruits, vegetables, beef and dairy stock, poultry
10. Grapes, fruits, tobacco

V. Livestock breeding on the mountain pastures

11. Beef and dairy stock
12. Beef and dairy stock, sheep, subsidiary holdings

VI. Crop cultivation and livestock breeding

13. Grapes, fruits, tobacco, vegetables, grain crops, beef and dairy stock, sheep

VII. Highly intensive agriculture around large cities and in urban agglomerations

14. Highly intensive suburban vegetable growing, dairying and poultry raising, grain crops, fruits and berries