

FERTILIZER USE IN CENTRAL AND EASTERN EUROPE: TYPES AND AMOUNTS

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Summary

Fertilizer use in Central and Eastern Europe reflects the social upheavals that have occurred in these countries during the twentieth century.

Adaptation to a market-based system following the change from centrally planned economies at the end of the 1980s is a long, complex and expensive process. In the case of Central Europe there was a trend back to systems that existed within living memory. Several countries in the region are due to join the European Union (EU) in the coming years. Most of the countries have greatly reduced their support to agriculture since 1990 and membership of the EU could possibly increase the financial support for their agricultural sector. However, there is still a high degree of uncertainty regarding the final terms and the extent of the subsidies.

The socialization of agriculture in Eastern Europe is of an earlier date and, in addition, the agricultural sector of the region was completely and violently revolutionized in the 1930s. It will take much longer for the agricultural sector to return to prosperity than in the case of Central European countries.

There has been a very sharp fall in fertilizer use in both Central and Eastern Europe. It is probable that the levels of use attained at the end of the 1980s will never again be reached. There was in fact great wastage of the material due to inefficiency and lack of accountability. However, present levels are generally too low to be sustainable.

The predominant nitrogen fertilizers, as in Western Europe, are ammonium nitrate and calcium ammonium nitrate. The consumption of phosphate and potash has fallen even

more than that of nitrogen. There is still a significant consumption of single superphosphate in Russia but it is a small proportion of its previous level and continues to decline. Otherwise, as in Western Europe, most phosphate and potash is in the form of compound fertilizers.

The countries of Central and Eastern Europe have large areas of fertile land for the production of agricultural commodities such as cereals. There are many areas with climatic conditions that are favorable to higher-value crops. Most of the countries had a high level of agronomic know-how, even if it was not put into practice. If the structural and social problems can be resolved, the countries of the regions could become, once again, major agricultural producers and hence users of fertilizers.

1. Central Europe

In this article, "Central Europe" comprises Albania, Bosnia, Bulgaria, Croatia, Czech Republic, Hungary, Macedonia, Poland, Romania, Slovak Republic, Slovenia and Yugoslavia. "Eastern Europe" comprises Belarus, Moldova, Russia and Ukraine. The Baltic States are Estonia, Latvia and Lithuania.

The region's population of 121 million people, of which the agricultural population accounts for 16% (see Table 1), compares with a total population in the European Union of 370 million with the agricultural population accounting for 5%. There is evidently a great variation between the countries of Central Europe, both as regards their size, urbanization and economic development. Countries such as the Czech Republic, Hungary, Poland and Slovenia are economically the most advanced and are likely to join the European Union in the near future.

Country	Population (millions)		Arable and permanent crops (million ha)
	Total	Agricultural population (% of the total)	
Albania	3.1	1.5 (49%)	0.70
Bosnia-Herzegovina	3.8	0.2 (6%)	0.65
Bulgaria	8.3	0.7 (8%)	4.51
Croatia	4.5	0.4 (9%)	1.59
Czech Republic	10.3	0.9 (8%)	3.33
Hungary	10.1	1.3 (13%)	5.05
Macedonia	2.1	0.3 (13%)	0.64
Poland	38.7	7.8 (20%)	14.38
Romania	22.4	3.7 (17%)	9.84
Slovenia	2.0	0.04 (2%)	0.29
Slovakia	5.3	0.5 (9%)	1.60
Yugoslavia	10.6	2.2 (21%)	4.10
Total	121.2	19.5 (16%)	46.68

Source: FAO

Table 1 Central Europe. Population and Agricultural Area

Today the countries of Central and Eastern Europe account for 4% of world fertilizer consumption, compared with 15% in 1989. Changes in the economic and political

systems in the region have resulted in a 70% fall in fertilizer consumption during the transition period (since 1989). The situation differs from country to country but most have fundamental problems in their agricultural sector, with poorly defined farm ownership, deficiencies in agricultural produce marketing, inadequate and expensive credit, and low farm-gate crop prices.

1.1. Agriculture

Until 1991, large state or co-operative farms were dominant everywhere in the region except in Poland. During the 1990s, the countries of the region passed legislation concerning privatization, compensation of former landowners and the restructuring of cooperatives.

Until the mid-1990s the agricultural sector in Bulgaria and Romania was still run on a centrally planned model but it has since been privatized. The agricultural area in Romania has been fragmented into small farms of doubtful economic viability.

By mid 1999 in Bulgaria some 80% of the land subject to restitution had been restored to its owners. Both these countries have soils and climates that, in principle, favor good, diversified cropping.

Fairly large-scale agriculture is likely to continue to dominate in Hungary, the Czech Republic and Slovakia, co-existing with small-scale farms. In these countries, the new landowners often lease their land.

In Poland, 80% of the land remained privately owned throughout the communist period. The average farm size is about 7 hectares and many farms consist of separate plots. Some consolidation is likely over the next 10 years but small farms will probably continue to dominate. The economic viability of very small farms is in question.

During the transition period, the retail prices of food products have not kept pace with the overall growth of consumer prices. Furthermore, such growth as occurred was not fully reflected in farm prices.

The prices of inputs used by farmers have increased at a higher rate than prices of their agricultural produce. The emerging private farms are dispersed with weak bargaining power. The fall in Russian demand for imported agricultural products has exacerbated the problems of the agricultural sector in Central Europe.

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Biographical Sketch

K.F. Isherwood was head, now retired, of the information service of the International Fertilizer Industry Association, IFA, located in Paris France. He started his career as an agronomist in Africa, followed by several years in the plant protection industry, joining IFA in 1969. He is the author of numerous papers concerning all aspects of the mineral fertilizer industry. He was instrumental in the preparation of a series of publications on the environmental aspects of fertilizer production, distribution and use, in co-operation with the United Nations Environment Programme, UNEP. He worked on fertilizer questions also in co-operation with the U.N. Food and Agriculture Organization, the FAO. He has a particular interest in fertilizer statistics and their interpretation and was member of the FAO/Fertilizer Industry Working Party on Fertilizer Statistics. He has academic qualifications in temperate and tropical agriculture and agricultural economics.