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ANALYSIS OF THE AGRICULTURAL SECTOR

AND POTASH FERTILIZERS CONSUMPTION FORECAST

IN RUSSIA

by

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Analysis of the Agricultural Sector and Potash Fertilizers Consumption Forecast in Russia

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This report is an overview of the major trends in the Russian agricultural market. All trends were studied from the perspective of how they influence the process of applying potassium fertilizers, thus development of the potassium industry as a whole.

I. Agricultural Sector in Russia

1.1. Historical development of agriculture sector

In order to have a better understanding of the present stage of development of agriculture and fertilizer production, it is necessary to apply a historical perspective.

The command economy that existed for 70 years in the USSR established state enterprises strictly controlled by bureaucratic bodies. The centralized system of purchasing agricultural products and fertilizers along with low labor motivation created a highly ineffective agricultural sector.

During the transition from a planned to a market economy, the state liberalized the prices of most goods. Nevertheless, prices for agricultural products remained under state control. This created a serious disparity for industrial and agricultural products that, along with lack of state support and ineffective work of companies, forced the industry into a state of desperate survival.

A development toward applying more effective farming methods with better management has appeared recently. Increasing labor productivity and the integration of modern agricultural technologies have created the right economic environment for the further development of the industry.

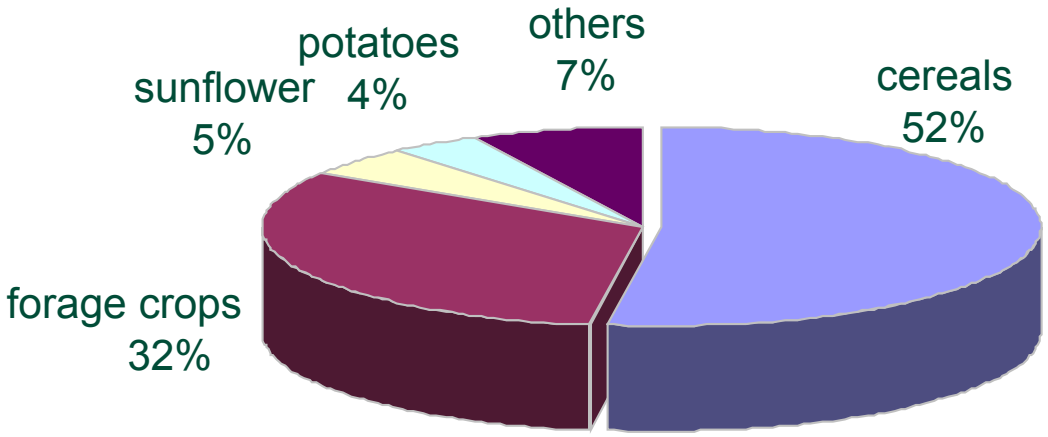
Today more attention is given to increasing yield, creating better quality products and processing products with a higher added value at a higher rate.

1.2. Analysis of agricultural products market

Any analysis of potassium fertilizer consumption would be incomplete without a study of major agricultural markets.

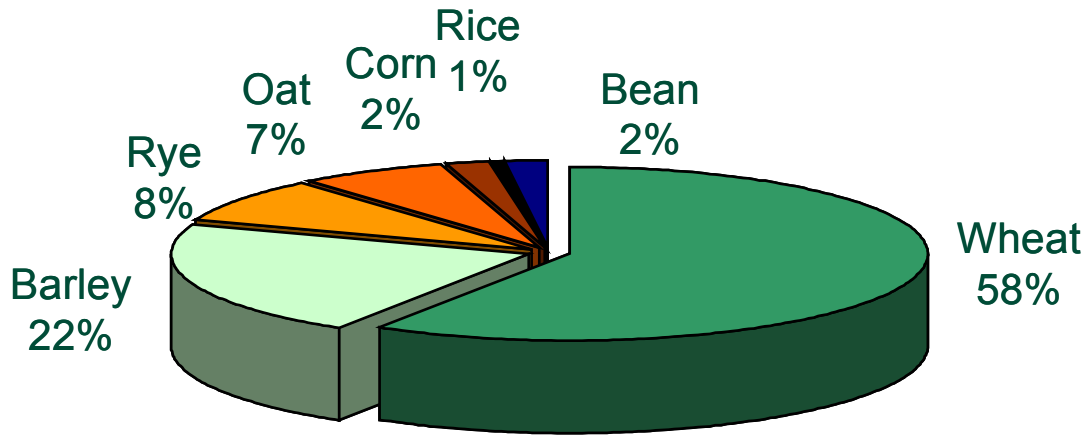
1.2.1. Structure of agricultural products

Historically, more than 50% of Russia's farming area is occupied by cereals (wheat, rye, barley, corn, oat, millet, rice and bean cereals).



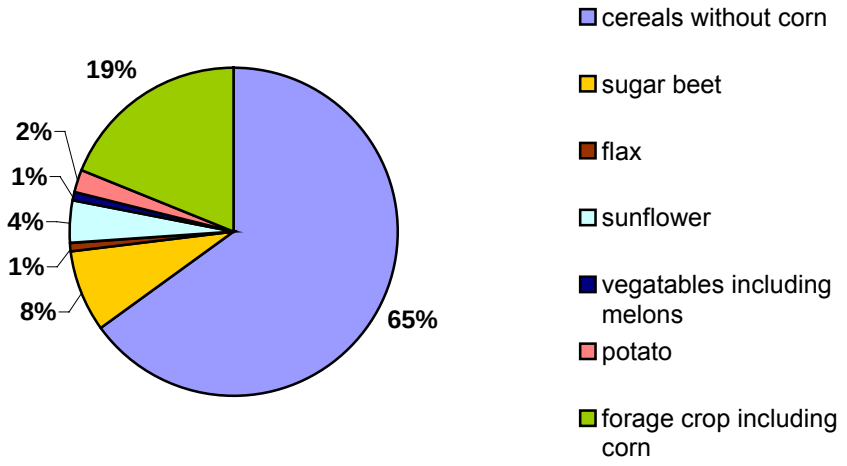
Major farming cultures (% of total sowing area in 2002)
Source: Goskomstat, 2002

Among cereals, wheat compromises up to 58% of the total harvest.



Cereal harvest structure in 2000
Source: Goskomstat, 2002

Over 80% of mineral fertilizers are used for cereals. In this regard, the consumption of mineral fertilizers depends on purchasing power of cereal producers.



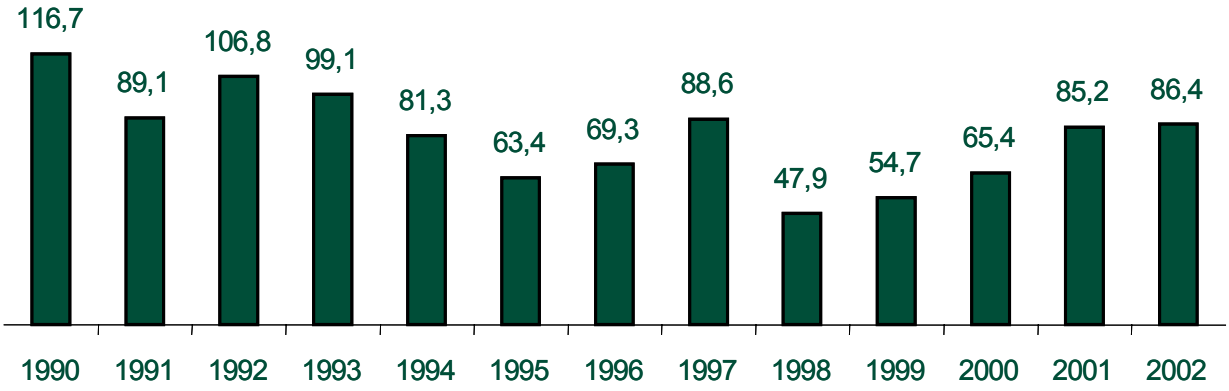
Use of mineral fertilizers for farming cultures in 2002, %
Source: Goskomstat, 2002

1.2.2. Cereal market overview

In the past few decades Russia has been the largest world importer of grain, not only high quality food grain but also fodder grain. This trend has changed over the past few years, boosting the volume of cereal exports to more than four times the volume of imports.

The market has developed a purchasing infrastructure for cereals. More than 600 companies currently operate in grain sales and purchasing, out of which more than 40 companies have an annual grain turnover exceeding 100,000 tonnes. Interregional and domestic vertically and horizontally integrated holdings are growing exponentially. Agro-holdings today control some 20% of the cereals market. Divisions of foreign and regional traders also operate in Russia.

For the past five years aggregate cereals harvests have increased from 47.9 million tonnes in 1998 to 86.4 million tonnes in 2002. Aggregate growth was caused by yield increase followed by harvest area expansion. But statistics over a longer period (1990-2002) show serious harvest fluctuations (116.7 million tonnes in 1990 and 47.9 million tonnes in 1998).



Aggregate cereal yield dynamics, millions of tonnes
Source: Goskomstat

From 1999 to 2001 investment grew, capital was concentrated, holdings were established, equipment leasing developed, etc., but negative trends still slowed grain production. Equipment was discarded significantly faster than it could be replaced, and the fast depletion of nutrients from the soil could not be compensated for with small amounts of mineral and organic fertilizers. Due to these reasons, the growth of the aggregate grain harvest in 1999-2001 was determined not by anthropogenic factors but mainly the meteorological conditions of cereal cultivation, it means, a favorable weather.

Russian agriculture traditionally is high risky due to the Russian climate. The application of mineral fertilizers can weaken the influence of natural risks in the agricultural sector.

High, stable harvests are guaranteed by the modern intensive agro-technology of applying a rational and balanced rate of mineral fertilizers. This is the most important factor determining a good harvest, with a 30% degree of influence.

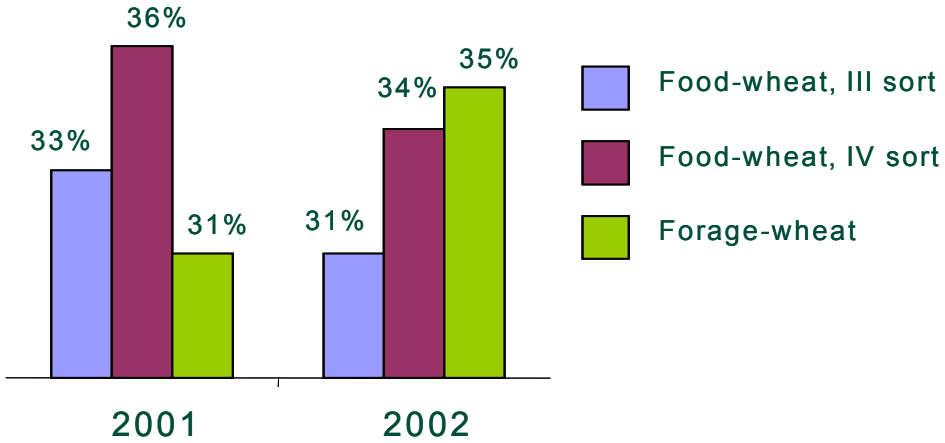
So the input of potassium fertilizers increases the resistance of farming cultures to unfavorable climate conditions such as drought, saturation, frost and cold.

Yield-forming factors for farming cultures in different soil types in Russia

Yield-forming factor	Factor influence degree for yield, %	
	Extensive farming	Intensive farming
Natural fertility	40	10
Weather	20	15
Soil development	20	10
Fertilizer application	10	30
Seed quality	5	20
Plant protection	5	15
Average output, centre per hectare	15-25	40-50

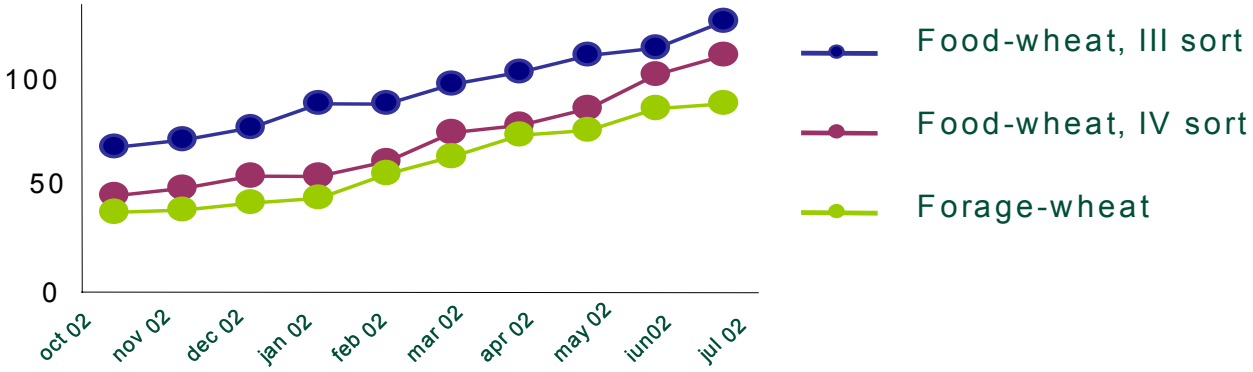
1.2.3. Yield quality

Over the last few years the quality of grain characteristics is tending to decrease. In structure of food-wheat crop the ratio of high-quality wheat has decreased to 31% in 2002. The fodder grain ratio in 2002 was 35% of total amount of grain produced in Russia. According to experts, the lower ratio of food grain was a factor determining various price curves for food and fodder wheat.



Trade structure of the wheat yield in 2001 and 2002
Source: SovEcon

According to experts, the decrease in wheat quality is directly related to the depletion of potassium and phosphorus available for plants from the planting soil. Insignificant inflow of mineral fertilizers does not compensate for their outflow.



Average wheat prices, RUR/ton
Source: IKAR

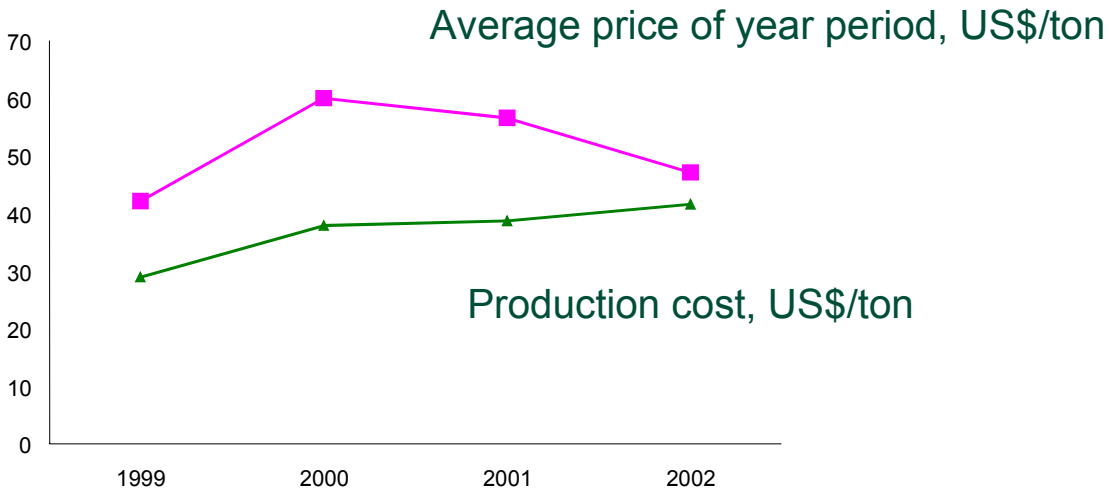
The effect and lost profit caused by insufficient potassium fertilizer and low-quality production can hardly be analyzed.

Worldwide farming experience shows that the balanced application of mineral fertilizers guarantees high and stable yields of quality plant-growing products. The significant potential of potassium fertilizers for increasing the yield of agricultural products has not been realized completely in Russian farming practice.

1.2.4. Economical conditions in cereal market

The growth of aggregate cereal yields in the past few years led to an excess of grain in the domestic market followed by a price decline. Export potential was limited by port capacities, quality of the cereal, domestic railway tariffs and limitations from grain-importing countries.

As a result, the growth of aggregate grain yield, grain prices and the production profitability ratio have been falling over the past two years. At the same time, grain cost has increased.



The ratio of average price to production costs for cereal products
Source: Rosbusinessconsulting

The share of spending on mineral fertilizers in the cost structure is insignificant compared to the costs for fuel, seeds, spare parts; it is less than 7%. Compared to 1990, spending on fertilizers declined by 3%.

Cost structure for agricultural enterprises producing plant-growing products, %

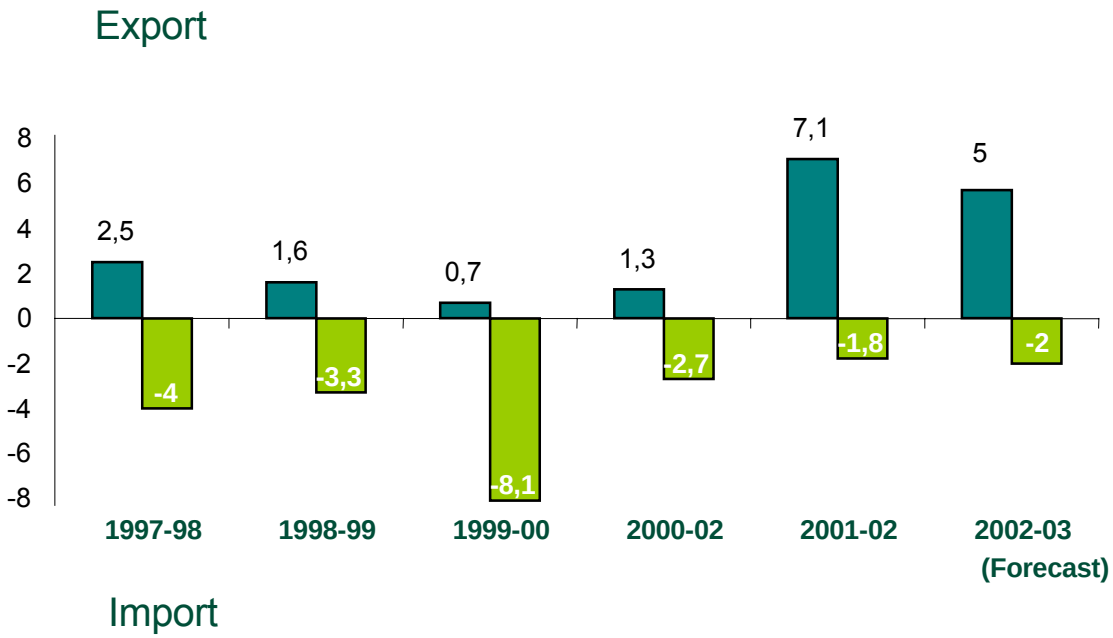
Characteristic	1990	2000
Total	100	100
Including		
Labor payment	28	17.9
Amortization	15	12.5
Material costs, total	43.4	60.3
Components of material costs		
Seeds	17.6	15.2
Mineral fertilizers	**9.9**	**6.2**
Oil products	4.1	17.1
Electricity	0.9	2.0
Fuel	0.5	1.3
Spare parts and construction materials	3.6	9.5
Services of third parties	6.8	9.0
Other	13.8	9.3

Increase of fertilizer input would allow agricultural producers to grow high-quality grain at an insignificant increase in cost, leading to higher prices and higher profitability.

In the 2001/2002 agricultural year Russian grain export volumes reached a record 7.1 million tonnes, a six-fold increase. About 4.3 million tonnes of this was wheat, with nine-fold growth. More grain production and favorable world market conditions were the reasons for such export growth:

- EU import duties declined for wheat, rye and barley from the Black Sea region in November 2001;
- A poor harvest in Eastern Europe and a record harvest of cereals in Russia led to big differences in prices;
- Infrastructure significantly improved and reshipment capacities increased, particularly in the delta of the Don and Azov seas;
- Reduced railway tariffs for grain transport allowed the delivery of Russian grain to the ports of Ukraine and the Baltic countries.

Analysts predict that the 2002/2003 agricultural year will show grain export of 5 million tonnes.



Export/Import ratio of Russian grain
Source: IKAR

For Russian grain to be more competitive despite domestic cost increases, more quality types of grain with higher prices and profitability must be produced and supplied.

II. Mineral fertilizers consumption forecast

The future growth of the fertilizer consumption is only possible when there are a significant number of efficient owners in the agricultural industry and when those owners seek to maximize their profits by using the most up-to-date management and agricultural technologies. Fertilizers should become one of main tools in increasing the competitive power of the enterprise as far as they increase yield and change the quality parameters of products, adding value.

The Ministry of Economic Development and Trade and the Research Institute for Technical and Economic Study of the Chemical Industry have developed a consumption forecast for mineral fertilizers on the domestic Russian market until 2010.

This demand scenario for mineral fertilizers was developed using the following factors:

- Per-capita grain consumption of 600 kg (Food and Agricultural Organization standard);
- Solvent demand for agricultural products corresponding to price growth;
- Recommended rates for mineral fertilizers application;
- Parameters of socioeconomic development determined by the Ministry for Economic Development and Trade for the period until 2010;
- Technical condition of the mineral fertilizer industry and possible development ratio.

2.1. Forecast for 2005

The research results for this dynamic model of inter-industry balance have been used for calculations. The model accepts the scenario for the country's economic development determined by Ministry for Economic Development and Trade in the report "Basic forecast parameters for socioeconomic development of RF from 2004 to 2006." (See table).

Forecasted indicators of economic growth according to the Ministry for Economic Development and Trade scenario in 2005-2006 (%)

Indicators	2005 to 2002	2006 to 2005
GDP	113.8	104.9
Growth ratio for major industries consumers of fertilizers:		
Agriculture and Wood production Including Plant-growing	108.2 109.5	104.5 104.6
Chemical industry	113	105

According to the forecast the following ways of consuming mineral fertilizers are applicable:

Minimal: Mineral fertilizer input up to 2005 will stay at the 2002 level (~70 kg/ha for fertilizing area), the square of harvest and fertilizing areas would not change and would be 84.6 and 25.4 million ha. correspondingly.

Maximal: New owners will appear, increasing the harvest and fertilizing area by 15%, to 90 and 28.5 million ha. correspondingly, and mineral fertilizer input will stay at the level of ~70 kg/ha for fertilizing area.

2.2. Forecast for 2010

Calculations were based on the scenario of the country's economic development and production growth determined by following economic indicators:

Indicators	2010 to 2006
GDP	133.5
Growth ratio for major industries consuming fertilizers:	
Agriculture and Wood production Including Plant-growing	124.3 124.5
Chemical industry	134.8

According to the forecast the following ways of consuming mineral fertilizers are applicable:

Minimal: New owners will appear, increasing the harvest and fertilizing area by 20% compared to 2005 and up to 100 and 45 million ha. correspondingly. Owners will switch to intensive agro-technologies, and fertilizer input will grow up to ~90 kg/ha for fertilizing area.

Maximal: New owners will appear who use modern intensive agro-technologies to completely supply the country with food according to the norms of developed countries in a competitive market. Within that, the harvest area will increase up to 115 million ha., out of which fertilizing area will be 60% (70 million ha.), and fertilizers input will grow up to 95 kg/ha of harvest area.

Forecast for mineral fertilizer consumption by 2010

Indicator Million tonnes, in nutrients	**2002 final**	**2005**	**2010**
Mineral fertilizers, total Including:	1.57	1.5 - 2.0	4.1 - 6.1
N	1.05	1.2 - 1.4	1.3 - 2.6
P_2O_5	0.31	0.5 - 1.0	2.4 - 2.8
K_2O	0.20	0.3 - 0.6	0.4 - 0.7

Considering the factors cited above, the demand from agricultural industries for mineral fertilizers could grow up to 4 million tonnes by 2005, and by 6 million tonnes per year in 2010.

III. Russian Potassium Fertilizer Industry Overview

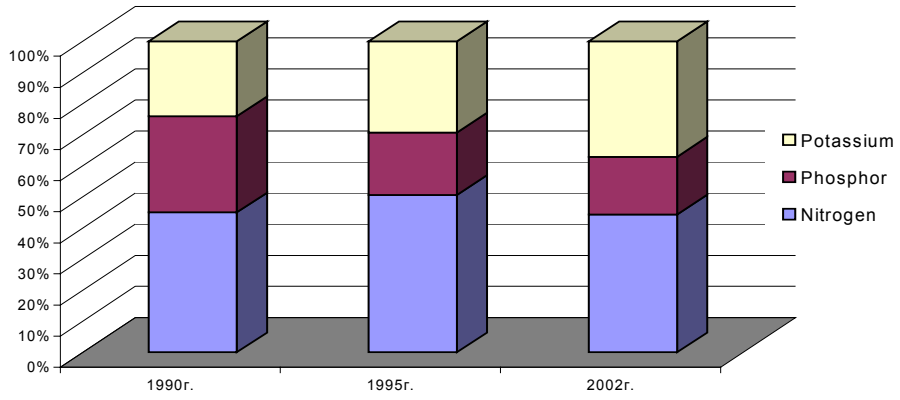
3.1. Current stage

The potassium fertilizer industry developed intensively in the 1970s and 1980s. By 1980 the extraction of potassium fertilizers was more than 3.5 million tonnes, calculated 100% K_2O. Supplies of potassium fertilizers to the agricultural sector grew to 2.3 million tonnes. The input of fertilizers per ha of harvest zone amounted to 22 kg/ha vs. 12 kg/ha in 1970.

In the following 10 years the volume of fertilizers production in Russia grew to 3.8 million tonnes by 1990.

During the transition from a planned to a market economy, a massive decline of potassium fertilizer consumption occurred among core consumers: farm enterprises. In 1994 total output was 35% of its 1990 level. Domestic market supplies were 157,000 tonnes vs. 2.3 million tonnes in 1990. Under such conditions, the potassium industry naturally reoriented itself from internal to external markets.

For the past three years (1999-2002) the production of potassium fertilizers has grown by 25.4%. The level of usage of existing production potential for output of these fertilizers increased 6.9% in this period. The share of potassium-containing fertilizers in the overall volume of mineral fertilizers grew to 37%, versus 24% in 1990.



Change in the production structure of mineral fertilizers in Russia, breakdown by types

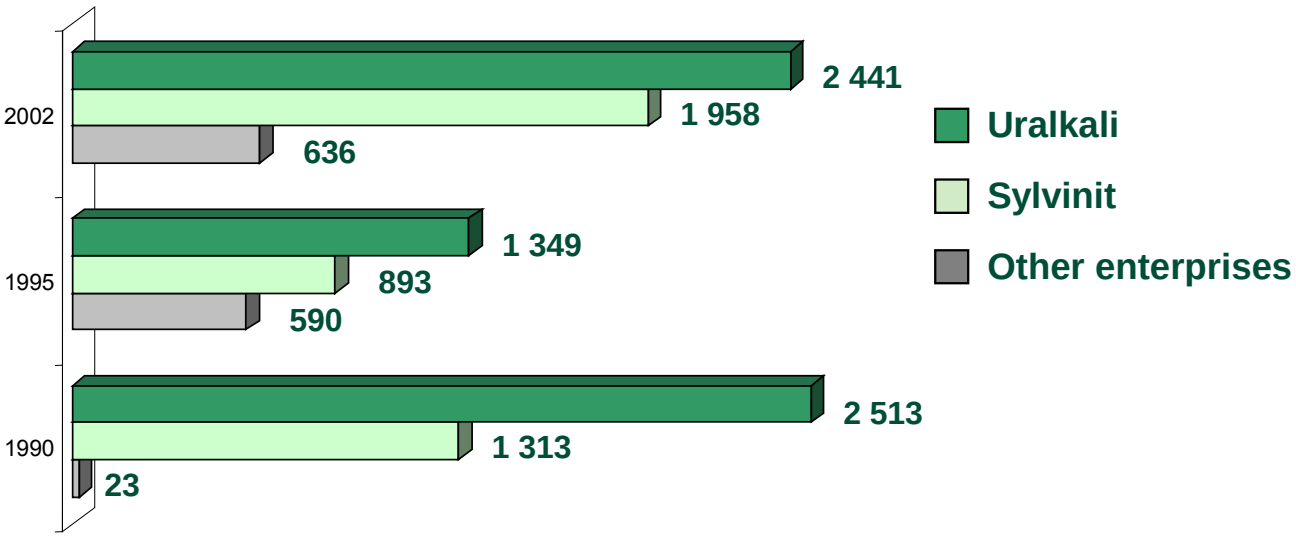
Currently Russia possesses one of the largest potential for potassium fertilizer production among in the world. As of January 1, 2003, the aggregate capacity for production was 6.7 million tonnes, equal to 36% of the world capacity for producing mineral fertilizers.

Production potential characteristics

Name	Capacity as of 01.01.03 thousand tonnes 100% Nutrient			Capacity usage level, %	
	2001	2002	2003	2001	2002
Mineral fertilizers, Total	19 641.1 18 318.4*	19 861.5 18 497.2*	19 572.1 18 569.1*	66.3 71.1*	68.3 73.4*
Including					
Potassium-type	6 786.2	7 109.4	7 114.0	69.9	70.7
in %	*34.5*	*36.6*	*35.6*		

* working capacity

Thirteen enterprises produced potassium fertilizers (including complex fertilizers) in 2002, the largest production share belonging to Uralkali with 55%.



Range of enterprises by output volume of potassium fertilizers

In 2002 export supplies of potassium fertilizers were 75% of total output. In general potassium chloride is supplied to the world market (94.1% of exports by volume terms in 2002), together with nitrogen-potassium fertilizers (4.6%) and potassium sulfate (1.3%). Fertilizers are supplied to more than 70 countries of the world.

The main share of locally produced potassium chloride is sold overseas. Traditionally the largest consumers of potassium chloride are China (39% of exports), India (14.8%), Brazil (10%) and the USA (4%) over the past few years.

The share of the internal market is some 25% of total fertilizer output; however, the largest portion of potassium chloride is used for complex fertilizers, which are then exported. Over the past three years, supplies to the domestic market have not exceeded 200,000 tonnes calculated on a 100% K_2O basis.

Farming supplies of unary potassium fertilizers are 70%, 25% are complex-mixed fertilizers and only 5% are mixed fertilizers.

3.2. Potassium fertilizers promotion program

The main reason for the low consumption of minerals and potassium fertilizers in particular is the undeveloped farming culture of many agricultural producers, low awareness of modern intensive agro-technologies and of the economical effectiveness of balanced input of mineral fertilizers. Thus Uralkali has developed a pilot project for promoting the balanced application of fertilizers.

Project goal is to stimulate the consumption of potassium and phosphate fertilizers by plant-growing companies.

The program includes:

- Organization of field experiments on the balanced fertilization upon the base of seed-growing companies;
- The development of cheap but effective technology of soil analysis with the popularization of its application;
- Development of an automatic system of calculating and economically optimizing input of mineral fertilizers with wide distribution and its usage;
- Stimulation and support of scientific research in the regions.

3.3. Competitiveness of the industry on the world market

With the existing imbalance in potassium consumption mostly oriented on exports rather than on the domestic market, the Russian potassium industry intends to reinforce and keep its competitive power in the world potassium market. In order to reach this goal, Russian producers of potassium fertilizers, including Uralkali, should accomplish five major objectives:

1. Become a global player in the world market of potassium fertilizers;
2. To be the most dynamically developing producer in the growing market;
3. To keep the lowest level of cost in the long term;
4. To become one of the most preferred suppliers of potassium fertilizers in key markets;
5. To build a strong brand and create a base for customer loyalty.

In order to become a true global player in the world market Uralkali aims to reconfirm and develop its presence in all key markets of potassium fertilizer consumption. For this purpose Uralkali has decided to use its own sales channels for core markets and actively applies this strategy. We are sure that only our own distribution will allow the company to control logistics costs and to better understand and react to the needs of the clients.

We also should influence the development of the Russian and world potassium fertilizer market by carrying out information campaigns targeted to stimulate the effective and correct application of potassium fertilizers.

To become the most dynamically developing potassium fertilizer producer in the world, we must consistently develop production, management and logistics. To make this happen we constantly need to replace equipment and increase production, management and logistics potential. This will allow Uralkali to participate in the growth of the global market of potassium fertilizers competitively with other producers.

We are trying to maintain our status as a producer with low production costs. This will allow us to keep our competitive power in the core markets of potassium fertilizer consumption in the long term. In this field we set four major goals: improvement in the management of cost transparency, cost reduction, excluding non-profile businesses and realization of investment projects targeted to the full change of cost structure and their absolute values. The main Uralkali project aimed at increasing transparency and management is the CRM system based on Oracle E-business Suite software. The program of cost reduction realized in 2002 allowed a significant increase in company profitability despite tangible growth of tariffs for main resources such as gas, electricity and railway shipping.

The program of development of our own power capacities will significantly decrease energy costs and will reconfirm our competitiveness.

We are also aspiring to become the most preferred supplier of potassium fertilizers in core markets. We recognize the growing demands of customers concerning the quality of supplied product and time of delivery and we set ourselves a goal to offer our customers products of the highest quality at a competitive price. For this purpose we control the quality at all stages – from production to distribution. We are constantly increasing our fleet of mineral carriers for transporting fertilizers, which guarantees timely delivery and preservation of the quality characteristics of our product. For shipment of our fertilizers we have built the modern Baltic Bulk Terminal, which has technological equipment.

Simultaneously with our entrance into core markets we started building and promoting our own brand. We aspire for our trademark to be associated with high quality of products and a competitive price.

Many of the projects that we have described have already been realized. Some of them are part of our long-term strategy and will be realized within a few years. We believe in the success of these changes to our company. We are full of determination to see these changes through to the end. We believe that the increase in the competitive power of Uralkali will benefit the world market of potassium fertilizers, our shareholders, our employees, and our customers and partners.