

BRANCH-WISE AND REGIONAL ECONOMY

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The state and developmental trends of fruit and berry market in the North-Western regions of Russia

The article emphasizes the importance of increased consumption of fruit and berry products to the standards, which are recommended by medicine in order to improve public health. It analyzes the modern developmental trends of fruit and berry market in the North-West Federal District and considers the main directions of this market development that cover the state support and regulation of this market, its pricing and competition progress.

Fruit and berry market, consumption level, supply and demand factors, organizational and economic mechanisms.



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Fruit and berry subcomplex is an important factor in providing health care and longevity for the population and in the solution of demographic problems. However, the level of fruit and berry consumption is below medical standards in our country. This fact influences the nourishment of a human organism with vitamins and other regulators of metabolic

processes. According to the Scientific Research Institute of Nutrition of the Russian Academy of Medical Sciences, 80 – 90% of the Russians incur a deficiency of vitamin C, 40 – 60% of people have vitamins A, B₁, B₂, B₆ level reduced.

Rational nutrition should be improved by the increase in the share of fresh fruit and berries as natural bioactive substances.

Therefore, fruit and berry complex was developed actively in Soviet times. In the period from 1930 till 1960 specialized enterprises with major investments, especially in machinery, were being run up, fruit and berry nursery gardens were being expanded, zonal institutions for the selection and technology of fruit plants were being established. As a result, the area of orchards and berry plantations was being expanded continuously [4]. The multiple measures to promote household and collective gardening in the 1970 – 1980s contributed to those processes.

However, the development of cultivated gardening in the northern regions was hindered by severe climatic conditions. But it was progressed by the development of winter-hardy varieties.

However, there were a few gardening farms in the northern regions. Only 0.2% of the total volume of local fruit and berries are produced by the agricultural organizations located in the North-West Federal District. The main part of fruit and berry production in the northern regions is concentrated in the private plots of the population (*table 1*).

Recently there is a reduction of the areas of fruit and berry plantations in most regions of the North-West Federal District, as well as in the whole country (*table 2*).

There is a 3-fold reduction of such areas in the Arkhangelsk and Pskov Oblasts. They have been almost halved in the Leningrad Oblast, while this region has remained the largest in the District gardening areas – 9.4 thousand hectares. In 2010 there were large areas of fruit and berry planting in the Kaliningrad Oblast (4.6 thousand hectares), the Pskov Oblast (3.7 thousand hectares) and the Vologda Oblast (3.0 thousand hectares), i.e. in the regions located in the western and southern parts of the District.

The data of All-Russia agricultural census 2006 show the species composition of the northern gardens. Fruit plantations cover two-thirds of them and one third of these areas are berry fields. The Leningrad, Arkhangelsk and Vologda Oblasts have the largest areas of cultivated berry fields in the North-West Federal District. More than a half of berry fields are located here. The prevailing crops include currants, strawberries, raspberries and gooseberries (*table 3*).

The amount of berrying and fruiting has been stabilized in most regions of the North-West Federal District due to the efforts of gardeners in the land cultivation, the expanded use of fertilizers and the development of new varieties. Moreover, the gross fruit and berry yield in the district increased by 6% in 2010 as compared with 2000 (*table 4*).

Table 1. Fruit and berry production pattern in the regions of the North-West Federal District (the share in the total production volume of all types of farms, %) [11]

Region	Agricultural organizations		Households of the population		Peasant (farm) households	
	2005	2010	2005	2010	2005	2010
Republic of Karelia	1.2	0.3	96.7	99.4	2.1	0.3
Republic of Komi	0.0	0.0	100	100	-	0.0
Arkhangelsk Oblast	-	0.0	100	100	-	-
Vologda Oblast	1.4	1.5	98.6	98.5	-	-
Kaliningrad Oblast	0.1	0.0	99.9	100	-	0.0
Leningrad Oblast	0.4	0.1	99.6	99.9	0.0	0.0
Murmansk Oblast	0.0	0.5	100	99.5	0.0	-
Novgorod Oblast	-	-	100	100	-	-
Pskov Oblast	3.1	1.0	96.3	99.0	0.7	-
In the NWFD, on average	0.8	0.2	99.1	99.8	0.1	0.0
For reference: Russian Federation	20.7	15.0	78.4	82.8	0.9	2.2

Table 2. The area of fruit and berry plantations on the farms of all categories in the regions of the North-West Federal District, thsd. hectares [11]

Region	Year					2010 to 2000, %
	2000	2003	2005	2008	2010	
Republic of Karelia	0.5	0.6	0.7	0.7	0.7	140.0
Republic of Komi	0.9	0.9	0.8	0.7	0.7	77.8
Arkhangelsk Oblast	2.6	2.4	2.2	1.8	1.7	65.4
Vologda Oblast	3.6	3.3	3.1	3.0	3.0	83.3
Kaliningrad Oblast	4.2	3.9	4.5	4.4	4.6	109.5
Leningrad Oblast	16.8	13.9	11.0	9.5	9.4	56.0
Murmansk Oblast	0.3	0.4	0.4	0.3	0.3	100.0
Novgorod Oblast	2.7	2.3	2.1	2.0	2.0	74.1
Pskov Oblast	5.3	4.6	4.2	3.8	3.7	69.8
In the NWFD, on average	36.8	32.3	28.8	26.2	26.1	70.9
For reference: Russian Federation	767.4	669.7	598.0	533.1	517.7	67.5

Table 3. The areas of fruit and berry plantations on the farms of all categories in the regions of the North-West Federal District (according to the results of All-Russia agricultural census 2006), hectares [3]

Region	Berry fields, total	Wild strawberries	Raspberries, blackberries	Currants	Gooseberries	Black chokeberries	Sea-buckthorn	Other
Leningrad Oblast	3202.4	1345.9	654.3	581.1	238.7	264.7	74.1	43.5
Arkhangelsk Oblast	1781.9	243.6	242.9	784.9	222.5	90.2	36.2	161.5
Vologda Oblast	1286.0	296.1	204.0	402.2	147.3	140.2	55.0	41.3
Republic of Komi	745.0	227.5	101.7	213.3	84.1	48.6	6.4	63.5
Kaliningrad Oblast	658.0	271.1	152.7	136.1	60.3	27.0	8.8	2.0
Pskov Oblast	625.3	217.9	96.7	180.9	65.8	46.5	13.4	4.2
Novgorod Oblast	524.5	207.3	78.2	125.7	50.7	46.3	12.3	4.0
Republic of Karelia	456.5	179.7	58.0	106.3	46.5	46.6	6.6	12.8
Murmansk Oblast	454.0	47.1	13.7	383.1	5.5	1.0	0.1	3.5
Total in the NWFD	10110.2	3197.0	1704.8	2972.0	943.8	729.2	221.3	342.1

Thus, there is no stability everywhere. For example, fruit and berry yield, as well as the gardening areas, decreased by 17% in the Vologda Oblast for the period from 2000 to 2010.

However, the main source of fruit and berry delivery to the NWFD consumer market includes their supply by mercantile businesses. The withdrawal of the state monopoly from foreign trade has allowed to increase the volume

of imported fruit and berries in the recent years¹. According to the Federal State Statistic Service, 90 – 95% of fruit and berries consumption is covered by the imported products in most regions of the North-West Federal District (the share of imported fruit and berries amounts to 62% only in the Kaliningrad Oblast).

¹ Import of apples in Russia increased from 218 thsd. tons in 2000 up to 1206 thsd. tons in 2010, grapes – from 72 up to 409, citrus – from 473 up to 1491, bananas – from 506 thsd. tons up to 1069 thsd. tons, relatively [9].

Table 4. Gross fruit and berry yield on the farms of all categories in the regions of the North-West Federal District, thsd. tons [11]

Region	Year					2010 to 2000, %
	2000	2003	2005	2008	2010	
Republic of Karelia	0.7	0.6	1.2	2.9	2.7	385,7
Republic of Komi	1.7	4.6	5.3	6.1	2.7	158,8
Arkhangelsk Oblast	4.8	8.8	7.4	7.4	5.7	118,8
Vologda Oblast	9.2	10.6	12.1	6.2	7.6	82,6
Kaliningrad Oblast	7.3	3.0	12.7	55.0	56.5	774,0
Leningrad Oblast	82.5	37.7	71.9	47.4	53.4	64,7
Murmansk Oblast	1.8	1.1	1.0	0.5	0.6	33,3
Novgorod Oblast	9.9	13.7	17.0	17.5	15.0	151,5
Pskov Oblast	15.3	11.0	21.1	14.8	7.4	48,4
Total in the NWFD	143.1	91.1	149.8	157.7	151.6	105,9
For reference: Russian Federation	2690.0	2444.6	2403.8	2400.6	2148.9	79,9

Table 5. Annual fruit and berry consumption in the regions of The North-West Federal District, kg per capita [8]

Region	2006	2007	2008	2009	2010	2010 to 2006, %	Per capita consumption in 2010, %	
							to minimum rate (80 kg/pers.)	to optimal rate (120 kg/pers.)
Kaliningrad Oblast	54	58	65	64	70	129.6	87.5	58.3
Vologda Oblast	57	59	65	61	66	115.8	82.5	55.0
Murmansk Oblast	51	55	60	60	65	127.5	81.3	54.2
St. Petersburg	48	53	59	59	61	127.1	76.3	50.8
Arkhangelsk Oblast	50	54	59	59	61	122.0	76.3	50.8
Novgorod Oblast	44	43	53	54	57	129.5	71.3	47.5
Leningrad Oblast	45	50	53	52	57	126.7	71.3	47.5
Republic of Komi	37	39	47	49	50	135.1	62.5	41.7
Republic of Karelia	39	42	42	44	47	120.5	58.8	39.2
Pskov Oblast	41	44	46	45	45	109.8	56.3	37.5
In the NWFD, on average	47	51	57	56	59	125.5	73.8	49.2
In the RF, on average	48	51	54	56	58	120.8	72.5	48.3

According to our calculations, the population consumed more than 1.2 million tons of imported fruits and berries in 2010 in the North-West Federal District [8].

Per capita fruit and berries consumption has increased in the regions of the North-West Federal District due to the growth of imported products. It increased by more than 25% for the period from 2006 to 2010 (*table 5*). Per capita fruit and berries consumption amounted to 59 kg in the North-West Federal District in 2010. It was even slightly higher than the national average fruit and berry consumption. However, this level is still only 74% of the minimum rate; it is only 48% in the share of optimum consumption.

The price level is the most important factor that influences the current level of consumption. According to the Federal State Statistics Service, there was 1.7-fold rise in prices for stone fruits, 1.6-fold rise in prices for seed fruits and 2.8 rise in prices for berries (*table 6*).

There is a continuous rise in purchasing prices for imported products. The rise in retail prices for fruit surpasses the rise in prices for foodstuffs in whole. For example, the retail price for apples was 24 rubles per kilogram in the Vologda Oblast in 2000, and it increased by 2.5 times and amounted to 64 rubles on average in 2010. The selling price for bananas increased from 17.4 to 48.2 rubles per kilogram or by 2.8 times for this period (*fig. 1*).

Table 6. Price index numbers of fruit and berry production in the Russian Federation, in % to the previous year [9]

Types of products	2005	2006	2007	2008	2009	2010	2010 to 2005, %
Stone fruits	118.8	111.4	101.4	125.2	116.7	104.0	171.6
Seed fruits	127.7	126.3	110.2	115.5	104.5	95.0	159.6
Berries	113.1	127.9	124.4	121.4	130.2	111.7	280.9
Grapes	98.1	122.3	136.6	103.5	96.7	99.8	166.9

Figure 1. Average consumer prices for some products in the Vologda Oblast at the end of the year, rubles per one kilogram [12]



The prices cause significant differences in fruit and berry consumption by the population groups with different incomes. So, according to the results of budget surveys conducted in the Vologda Oblast in 2010, the fruit and berry consumption amounted to 25 kg per a member of the family in the first decile group (people, who have the lowest incomes) and it was 88 kg (3.5-fold higher) in the tenth group (people, who have the highest incomes).

The cost of annual fruit and berry consumption amounted to 1359 rubles in the group with the lowest incomes and 5252 rubles (3.9-fold higher) in the group with the highest incomes (table 7).

It should be noted that there is the following per capita fruit and berry consumption in the

families with children aged under 16: 62 kg in single-child families, 51 kg in two-child families and only 43 kg in three-child families. There is a similar trend in other regions of the North-West Federal District.

Thus, the development of fruit and berry market in the regions of the North-West Federal District and its reaching the volumes, which provide the optimum level of fruit and berries consumption, are limited with respect to both demand and supply.

The demand is limited by low incomes of most people and rapid-growing retail prices for fruit and berries. The supply in this market is becoming more dependent on the rising costs of market fruit and berry resources (especially, imported).

Table 7. The amount and cost of fruit and berries, consumed by the households of different standards of well-being in the Vologda Oblast, 2010.

Households	Average consumption in the families surveyed	Including in ten percentage groups of the population									
		1	2	3	4	5	6	7	8	9	10
The amount of fruit and berry consumption, kg											
Total households:	67	25	34	48	60	71	78	87	83	86	88
Urban	70	28	33	49	58	74	87	97	86	89	92
Rural	61	21	38	47	63	63	58	67	76	80	80
The cost of consumed fruit and berries, rub. per a member of the family											
Total households:	4084	1359	1914	2820	3547	4072	4867	5780	5251	5191	5252
Urban	4116	1483	1721	2598	3238	4115	5232	6253	5268	5183	5380
Rural	4004	1072	2342	3299	4235	3979	3951	4725	5213	5208	5021

Source: Food consumption in socio-economic population groups in the Vologda Oblast (based on a sample survey of household budgets). Vologda: Vologdastat, 2011.

The supply is also limited by a low level of local fruit and berry production. It should be stressed that the growth of local resources are hindered by rising costs of fertilizers for the owners of garden plots, increased passenger and transport fares.

Almost everywhere there is no organized direct purchasing of garden products in the cooperatives and associations.

In order to use effectively the intensive development reserves of local fruit and berry production in the northern regions, it's necessary to have an active government support, which consists in the following steps:

- ensuring regular monitoring and analysis of the situation in the gardening and country farms;
- developing regional target programs and projects for the development and support of gardening in the region;
- improving the system of banking and other types of individual lending of personal rural households;
- developing a system of benefits and discounts in specialized stores selling seeds, plants and gardening equipment;
- arranging public activities and events (fairs, competitions, festivals, exhibitions,

scientific conferences, round tables, etc.) aimed at the popularization of gardening and country households;

- promoting the integration between gardening and country households into the systems of social consumer societies;
- organizing the clear purchase of fruit and berries surplus with the population.

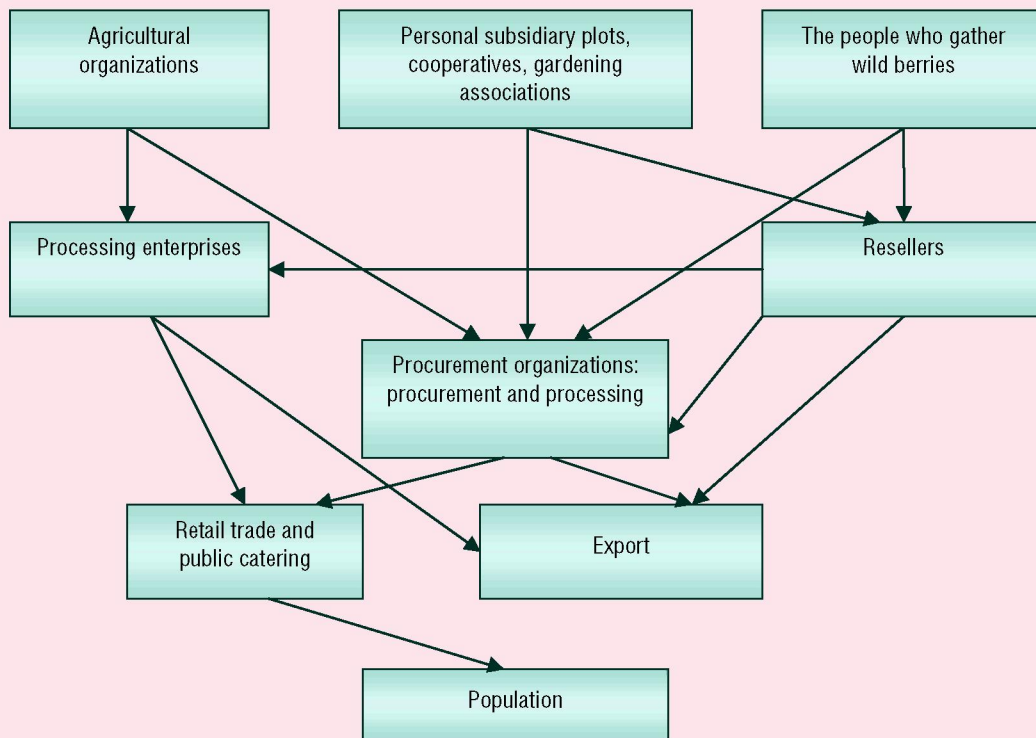
The most important way to increase the population's provision with fruit and berries in the regions of the North-West Federal District is the collection and processing of wild berries, a biological reserve of which is much more than the yield of cultivated berries.

According to forest management data, the biological reserve of wild berries in the Vologda Oblast amounts to 56 thousand tons, including 37 thousand tons of cranberries, 11.2 thousand tons of cowberries and 7.8 thousand tons of blueberries².

A consumer's co-operation was the main organization for these products laying-in during a long period of time. It had a branched chain of collecting centers in all regions.

² Source: Forest Plan of the Vologda Oblast. Available at: http://www.forestvologda.ru/page/wood_plan

Figure 2. Organizational and economic chain of cultivated and wild berries movement



In 1991 the Vologda consumers' association bought 3.8 thousand tons of cranberries and cowberries from the population. A significant part of this production was realized in the domestic and foreign markets. However, the system of consumer's co-operation was destroyed. In 2010 the cooperatives bought only 11 tons of berries. Moreover, today there are a lot of private companies and buyers in the wild berry market, who work with exporters and metropolitan retailers. Vologda Berry LLC has been operating in our region since 2003. Processing capacity of this enterprise is created in the Ust-Kubinsky District. The main method of berry processing here is a shock freezing in low temperature cells (up to -45°), followed by a long-term storage at -25° . This enterprise laid in two tons of berries in the Vologda Oblast in 2007 – 2008. Judging from the published

materials, its effectiveness is increased step by step [6]. Vologda Plan for Forest Food Products LLC is also developed progressively.

The experience in the use of wild berry reserves is also accumulated in other regions of the North-West Federal District. Marketing activities aimed at expanding the share of berry products in the domestic and foreign markets is an important aspect in this case.

Figure 2 shows a diagram of the organizational and economic chain of cultivated and wild berries movement. This chain, in our opinion, will improve the efficiency of local berry reserves.

As for the growth rates and the sales of fruit and berries imported by the region, the following dynamics can be predicted here. Russia's accession to the WTO will reduce customs duties on imported products, which will create an objective opportunity to reduce prices

in the regional consumer markets and increase the population's demand for these products. But this opportunity will depend greatly on the degree of trade competitiveness in Russia, the improvement of antimonopoly law and the actual implementation of measures to combat corruption in the economy.

Let's hope that the policy proclaimed by the current authorities will be effective. Then the development of fruit and berry market will reach the results providing the fruit and berry consumption level, ensuring the promotion of public health in Russia and improving the living quality of our people.

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