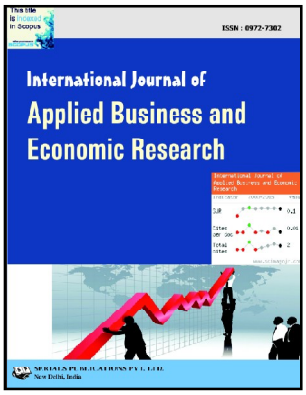

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Methodical Basis for the Increase in the Efficiency of Management by Objectives of Local Economic Systems (on the Example of Fruit and Berry Sub-Complex of Krasnodar Region)

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Abstract: This article was prepared within the framework of the RFBR-supported scientific project No. 16-12-23003 and the administration of the Krasnodar Territory. The article deals with the issues of state regulation of development of the fruit and berry subcomplex in the Krasnodar Region on the basis of MBO technologies. It presents an analysis of the main indicators of the development level of the fruit and berry subcomplex in the Krasnodar Region; the necessity of state support of this branch is justified. The study also presents data on the structure of the area of perennial plantations in the Krasnodar Region and the amount of funding for the subprogram "Development of horticulture, support for the development of perennial plantations and vineyards" of the State Program "Agricultural Development and Regulation of Agricultural Products, Raw Materials and Food Markets". The article highlights the specific features of fruit and berry production. Describing the effectiveness of the implementation of the State Program, we made a conclusion about the need to adjust the program the tools for its target management to meet the specific needs of the region. The basic principles of program management are: focus on the end goal, through the planning of the control object, the principle of continuity. Program-target management is designed to solve the complex problems of social production arising in the implementation of large-scale national, sector and regional goals with hard legislative deadlines.

Keywords: program-target management, localities, agricultural production, efficiency, competitiveness, optimization

JEL Classification: Q18, R11, R58

INTRODUCTION

Agriculture has always been and remains the basic branch of the economy meeting the population's priority needs for food, which has no alternatives in the future. Due to certain specific features, the agrarian sphere needs state support, and therefore, an effective agrarian policy is a precondition for the progressive and dynamic development of the country's agriculture and its regions.

The effectiveness and successful completion of economic reforms in Russia will largely depend on the accounting for the territorial specifics and features of the development of various regions in the strategy of market transformations.

The security of the regions depends to a large extent on the functioning of one of the economic subcomplexes of the agro-industrial sector (AIC). Overcoming crisis phenomena, ensuring the stabilization and growth of production in the agro-industrial complex is only possible on the basis of a systematic approach to state management of the economy, an effective tool of which is Management by Objectives (MBO).

In management practice, MBO has proved to be a very effective tool for increasing the efficiency of functioning and development of territorial socio-ecological and economic systems. The MBO principle determines the priorities and goals of social and economic development and ensures the national security of the Russian Federation by interrelating the goals, the terms of implementation of the state programs of the Russian Federation, state programs of the constituent entities of the Russian Federation, municipal programs and the volumes and sources of their financing. MBO is aimed at solving such problems of regional development as the optimization of territorial shares in the economy, the prevention of excessive differentiation of regions in terms of socio-economic development, ensuring the effective functioning of the pan-Russian market.

The implementation of MBO in the development of the territory (region) in accordance with its natural and socio-economic conditions is most effective on the basis of the systemic paradigm of spatial organization. Such a vision of the object and the subject of research calls for the consideration of the socio-economic space as a single system comprising a number of relatively independent subsystems.

MATERIALS AND METHODS

The Krasnodar Region is a region that makes a significant contribution to the country's food supply and is of great importance for ensuring its food security. The region produces about eight percent of gross agricultural output in the country. Due to the availability of raw materials in the region, industrial production of meat and dairy products, sugar, wines, vegetable oil, canned fruit, vegetables, and meat is highly developed. The Krasnodar Region holds the largest share in the total area of industrially cultivated fruit and berry plantations and both in the Russian Federation and in the Southern and North Caucasus federal districts (Table 1).

The total area of fruit and berry plantations in agricultural organizations of the Krasnodar Region in 2015 amounted to 24.7 thousand hectares, which is 18.6% of the area in Russia and 44.3% of the planted area in the Southern Federal District and the North Caucasian Federal District.

Table 1
Dynamics of the area of fruit and berry plantations and gross product harvesting in agricultural organizations of the Russian Federation

Indicator	*Total area, thousand hectares*				*Gross yield, thousand tons*			
	1994		*2015*		*1994*		*2015*	
	thous. hect.	*% of total in RF*	*thous. hect.*	*% of total in RF*	*thous. tonnes*	*% of total in RF*	*thous. tonnes.*	*% of total in RF*
Central District	125,1	34,2	51,8	39.1	74,3	15,7	190,5	32,8
Privolzhsky District	41,4	11,3	15,9	12,0	31,7	6,7	35,0	6,0
Siberian District	11,7	3,2	6,7	5,1	6,1	1,3	2,6	0,4
Southern and North-Caucasian Districts	169,3	46,3	56,0	42,2	358,7	76,0	351,8	60,6
Including: Krasnodar Region	65,7	18,0	24,7	18,6	223,9	47,4	225,1	38,8
Rostov Region	41,5	11,4	7,8	5,9	70,3	14,9	18,3	3,2
The Republic of Dagestan	18,4	5,0	4,9	3,7	7,9	1,7	5,86	1,0
Stavropol Region	16,4	4,5	3,9	3,0	24,8	5,3	16,1	2,8
Volgograd Region	8,7	2,4	4,4	3,3	13,3	2,8	39,8	6,9
Total in RF	365,5	100,0	132,6	100,0	472,0	100,0	580,2	100,0

Industrial horticulture, due to natural and climatic features, is concentrated mainly in four federal districts: Central - 51.8 thousand hectares (39.1% of the total area in Russia), Southern - 39.1 thousand hectares (29, 5% of the total area in the RF), the North Caucasus - 16.9 thousand hectares (12.7% of the total area in Russia), the Volga - 15.9 thousand hectares (12.0% of the total area in Russia). 93.3% (123.7 thousand hectares) of the areas of industrially cultivated fruit and berry plantations of the Russian Federation are concentrated in these federal districts.

Gross yield of fruit and berry products has increased in all categories of farms. Production growth in 2012-2015 in comparison with 1990 was 15.2%. Along with this, the reduction of gross yield in agricultural organizations continues, which amounted 53.8% in 2012-2015 compared with the level of 1990.

The fruit and berry subcomplex occupies a special place in the economy of the Krasnodar Region. At the moment, only 15.6% (in the Krasnodar Region, slightly above 40%) of the recommended level of consumption per person per year (which is 14.8 kg) is provided in Russia by domestic production of fruit and berry products. A high volume of imports of fruit and berry products is due to the low average annual yield of plantations.

The main indicators of the fruit and berry subcomplex in the Krasnodar Region and its place in the structure of the region's economy are presented in Table 2.

Characterizing the data of Table 2, we should note a sufficiently high level of marketability (from 75 to 98%) for the period under study. Average prices of producers of agricultural products of fruits of stone, pome and berry crops grow respectively by 21269, 14924 and 55604 rubles, respectively.

Table 2
Fruit and berry subcomplex in the economy of the Krasnodar region

Indicator	*2005*	*2011*	*2012*	*2013*	*2014*	*2015*
Gross regional product (gross value added in basic prices), bln. rub.	372,9	1028,3	1244,6	1459,5	1662,9	1792
Including: agriculture, hunting and forestry	58,6	127,5	154,2	140,7	151,8	182,9
Gross regional product per capita, thousand rubles.	72,8	196,9	236,7	274,9	309,8	330,1
Area of fruit and berry plantations, thousand hectares	54,9	45,2	44,8	43,6	43,9	43,7
Gross yield of fruits and berries, thousand tons	247,7	213,3	270,1	312,1	388,8	344,4
Realization of fruit and berry products, thousand tons.	242	188	202	259	296	276
Marketability of agricultural production in agricultural organizations,%	98	88	75	83	76	80
Yield of fruit and berry crops, centner / ha	50,2	73,3	96	107	135,5	138,5
Sale of fruit, million rubles.	2,2	5	4,9	5,1	4,8	5,9
Average prices of producers of agricultural products of stone fruit, roubles per tonne	10547	26577	31019	40301	32376	31816
Average prices of producers of agricultural products of pome fruits, roubles per tonne	8521	18510	19073	21006	22060	23445
Average prices of producers of agricultural products of berries, rubles per tonne	23967	66109	67524	95802	98373	79571

It is no accident that in the development strategy of the Krasnodar Territory until 2020, it is planned to restore gardens and vineyards, create conditions for the production of competitive fruit products, and increase the output of export and import-substituting products.

Efficiency of fruit production increased with the introduction of the State Program, in which subsidies and compensations support agricultural producers. This makes it possible to renovate perennial plantations and reduce the impact of macroeconomic changes in the economy.

Currently, the assessment of the effectiveness of state support for the fruit and berry subcomplex is made on the basis of determining the compliance of the speed of development of the industry with program requirements and the level of attainment of the target indicators. In our view, this method is ineffective. Under the influence of various economic, natural, climatic and other subjective factors, the control indicators have significant fluctuations; therefore, it is necessary to take into account industry specific features when calculating the size of state support. Without taking into account the industry specificity (the duration of formation of the recovery fund due to depreciation charges, the high inflation rate leading to devaluation of this fund, etc.), the volume of budget subsidies is insufficient.

DISCUSSION

A substantial contribution to the development of the fruit and berry subcomplex was the adopted State Program "Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food Markets for 2008-2012", which was finalized and then prolonged until 2020, taking into account the requirements for membership of the Russian Federation In the World Trade Organization (WTO). However, at the same time, a number of economic restrictions and sanctions, along with the strict requirements of the WTO, compel the state authorities to take preventive measures.

The goal of state support of the fruit and berry industry is to ensure an extended reproduction of the resources of economic entities, which is impossible without the optimal combination of private (redistributed part of the net income) and public funds (subsidies).

At the moment, state support actions within the framework of MBO approaches are divided into so-called "baskets". Activities included in the "yellow basket" are estimated only quantitatively and are limited by the indicator of the aggregate support measure. In accordance with the requirements of the World Trade Organization, these measures of state support are recorded in the form of aggregate measures, which should be minimized.

In accordance with the WTO requirements, the activities of the "green basket" are activities that do not directly support the prices of agricultural producers and do not cause an inefficient allocation of resources in the agrarian sector. The main areas in this basket can be activities to promote the sale of agricultural products, including the collection, processing and dissemination of market information; improvement of infrastructure; improvement of land use; environmental protection, etc.

State support, which has a tendency for relative decline, has an insignificant impact on the technological development of the industry and its effectiveness: thus, the allocated subsidies for nursery planting and care before entering fruition in 2015 (for nursery planting - 90.3 thousand rubles per hectare or 90.3% to the level of 2009; for care - 3.1 thousand rubles per hectare or 77.5% to the level of 2010) reduce production costs (through depreciation) by only 11.5% against 18.8% in 2010, while actions of "unrelated form of support" (compensation) reduce the deficit of working capital by only 0.13%, which does not fill the cost imbalances (Table 3).

Table 3
State support activities and the level of their influence on production efficiency

Indicator	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*Average in 2010-2015*	*Average rate of growth, %*
Costs for nursery planting and care before entering into fruiting, thousand rubles per hectare	594,2	649,5	720	760	810,2	862,8	732,8	7,74
Subsidies, thousand rubles per hectare	112	112	112	162,3	74,9	99,6	112,1	-2,32
- nursery planting	100	100	100	138,3	68	90,3	99,4	-2,02
- care before entering into fruiting (1-3 years)	4	4	4	8	2,3	3,1	4,2	-4,97
The share of subsidies in the created cost of plantations, %	18,8	17,2	15,6	21,4	9,2	11,5	15,6	-1,46
Production costs, thousand rubles per hectare	139,9	174,6	227,3	288,6	300,2	320	241,8	18
Compensation for purchased resources of other industries, thousand rubles per hectare	1,6	1,8	2,1	2,2	-	-	1,5	-24,2
Subsidies for the provision of "unrelated support", thousand rubles per hectare	-	-	-	-	1	0,4		
The share of compensation for the acquired resources of other industries (subsidies for the provision of "unrelated support") in the total costs of production, %	1.14	1,03	0,92	0,76	0,33	0,13	0,72	-0,2

The current trends in the industrial horticulture indicate an increase in the deficit of own resources of producers for the renovation of plantations, the renovation of industrial infrastructure and the implementation of current activities, which is a deterrent to development and actualizes the need to increase state support, differentiate forms of state regulation, and reduce the resource intensity of production processes.

The deficit of funds for the renovation of plantations is more than 50% or 446.5 thousand rubles per hectare. The allocated subsidies reduce it only by 11.5%.

The average annual increase in the cost of industrial means of production acquired by agricultural producers is up to 15%, this makes it necessary for enterprises to add at least 10% of resources annually to compensate for the rising costs of production, an average of more than 10 thousand rubles per hectare (in prices of 2015).

The deficit of own funds to ensure production is more than 40% or 116 thousand rubles per hectare (Figure 1).

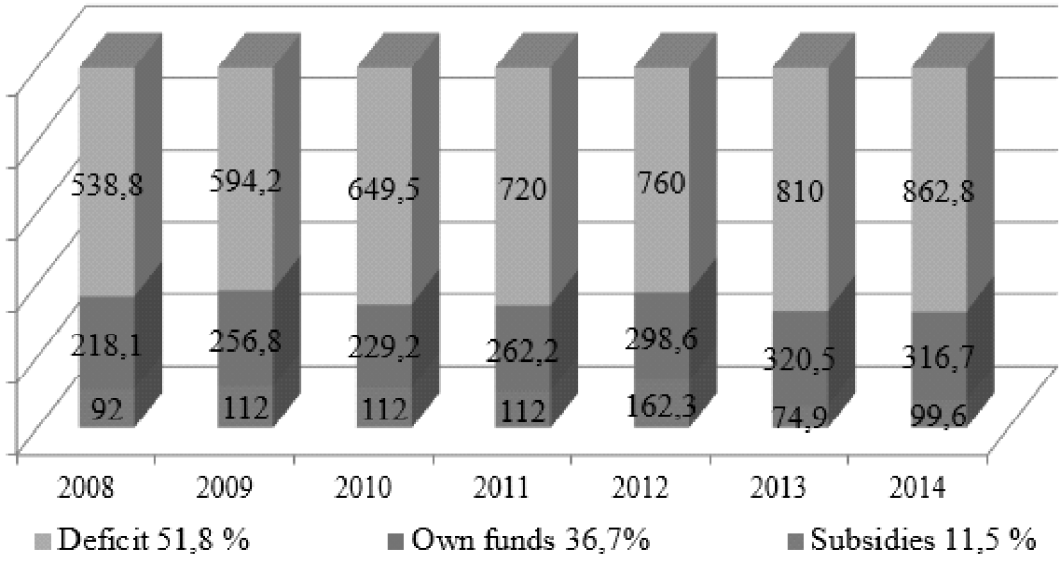

Figure 1: Evaluation of the adequacy of funds for the renovation of fruit plantations, thousand rubles per hectare

Assessment of the sufficiency of resources should be considered for each functional area of the reproduction process. In general, for a calendar period, the subjects of industrial fruit growing receive sufficient income to meet the current need for monetary resources, but within a period of 3-5 months, they experience a significant deficit of own working capital. An analysis of the adequacy of funds to ensure the regulatory requirement for working capital shows that the deficit of own funds and targeted sources of financing (compensation) for these purposes for the subjects of industrial fruit growing is more than 30% or 42.7 thousand rubles per hectare in 2010 prices. Insignificant amounts of compensation (an average of 1.8 thousand rubles per hectare) do not fill the cost imbalances, they reduce the deficit of working capital by only 1.5%.

Analysis and comparison of actual indicators with the normative level, which characterize the reproduction proportions for ensuring the stability of production in a specialized fruit enterprise, indicates significant imbalances and a shortage of funds: own and targeted sources of financing (subsidies, compensations) for planned renovations of perennial plantations, renovation of industrial infrastructure, and maintenance of the required level of labor remuneration.

Allocated compensation (measures of "unrelated form of support") in the amount of 400 rubles per hectare reduce the deficit of working capital by only 0.2%.

The deficit of agricultural producers' own funds for planned renovation of plantations, the renewal of industrial infrastructure and production activities, due to negative macroeconomic tendencies, the violation of economic principles of organization of expanded reproduction and inadequate forms of state regulation have become constraining factors of development.

The devaluation of the reimbursement fund, formed through depreciation charges, by 3.7% per year, the decrease in real production efficiency by 4.9 percent per year, and the inadequacy of government support measures, cause the deficit to increase by 9.4 percentage points annually, which hinders the rates of renovation of plantations and renovation of industrial infrastructure (Figure 2).

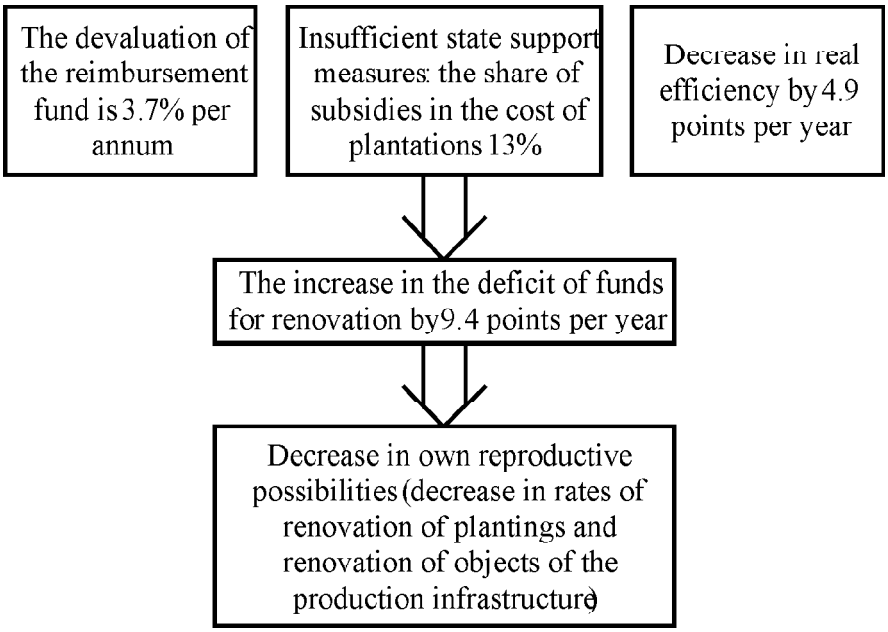

Figure 2: Reproductive imbalances in industrial horticulture

Internal factors that determine the efficiency of production are: productivity of plantations, optimal compatibility of production and economic indicators, structural organization of production, and its resource intensity.

Reduction in the shortage of funds (or increase in income) can be achieved by improving the pricing system for products sold, taking into account the volume of profit and the rate of profitability that are necessary to ensure the desired rate of reproduction and reduce the relative costs of production.

As a result of the progressive negative impact of cost disparities, there is an increase in the value of working capital, which averaged 18.2% over the period 2011-2015, which led to an increase in production costs by an average of 16.3% (Table 4).

Table 4
Production and economic indicators of the production of pome fruit (apple) (average for specialized enterprises in the central zone of the Krasnodar Region)

Indicator	*2011*	*2012*	*2013*	*2014*	*2015*	*Average in 2011-2015*	*Average rate of growth, %*
Yield, centner / ha	142,4	178,2	211	246	238,6	203,2	13,8
Cost of production, rubles per centner	1226,6	1275,8	1367,6	1220,3	1341,1	1286,3	2,3
Production costs, thousand rubles per hectare	174,6	227,3	288,6	300,2	320	262,2	16,3
Cost of circulating assets, thousand rubles per hectare	104,8	141	167,4	186,1	204,7	160,8	18,2
Average wholesale selling price, rubles per centner	1850,9	1907,2	2100,6	1790	1900	1909,7	0,7
Profitability of production,%	50,9	49,5	53,6	46,7	41,7	48,5	- 4,9
Resource intensity, rubles	0,66	0,67	0,65	0,68	0,71	0,67	1,6

However, due to the massive intervention on the domestic market of the fruits subsidized by the exporting countries and the redistribution of surplus value in favor of retailers, the application of the price factor as a compensatory mechanism becomes impossible. In 2014, wholesale purchase prices for imported fruit products (apples) amounted to 19 rubles per kilogram (0.58 dollars per kilogram), while the cost of production of domestic fruits amounted to more than 14 rubles per kilogram, while the average wholesale purchase price was limited to 22 rubles per 1 kg. In 2015, the projected price for imported fruit products (apples) was 30 rubles per kilogram. The prime cost of production of domestic fruit (apples) increased to 20 rubles / kg. Therefore, the average wholesale selling price, taking into account the normative level of profitability, should also increase by 60% compared to 2015.

Internal structural imbalances, as evidenced by the trend in the comparable dynamics of sales revenues and production costs, arise as a result of deformations in the organization of plantation structure, production volumes and the timing of product sales, which negatively affects the implementation of reproductive processes and reduces the overall resulting performance indicators.

Thus, the decrease in the efficiency of fruit production is increasingly influenced by the growth in the cost of purchased resources and relative decrease in the volume of state support, which forms high average rates of growth in production costs, as well as the difficulties in the increase in the average wholesale price of sales due to the monopoly position of individual retailers in the consumer market (Figure 3).

All this actualizes a number of practical tasks to increase efficiency, aiming at: normative structuring of production, bringing technological and economic indicators and their correlation to the normative level, bringing the state regulation tools to a level that allows to remove macroeconomic imbalances and create conditions for extended reproduction for the producer. These measures form the basis for the sustainable development of the fruit and berry subcomplex - the progressive build-up of the capabilities

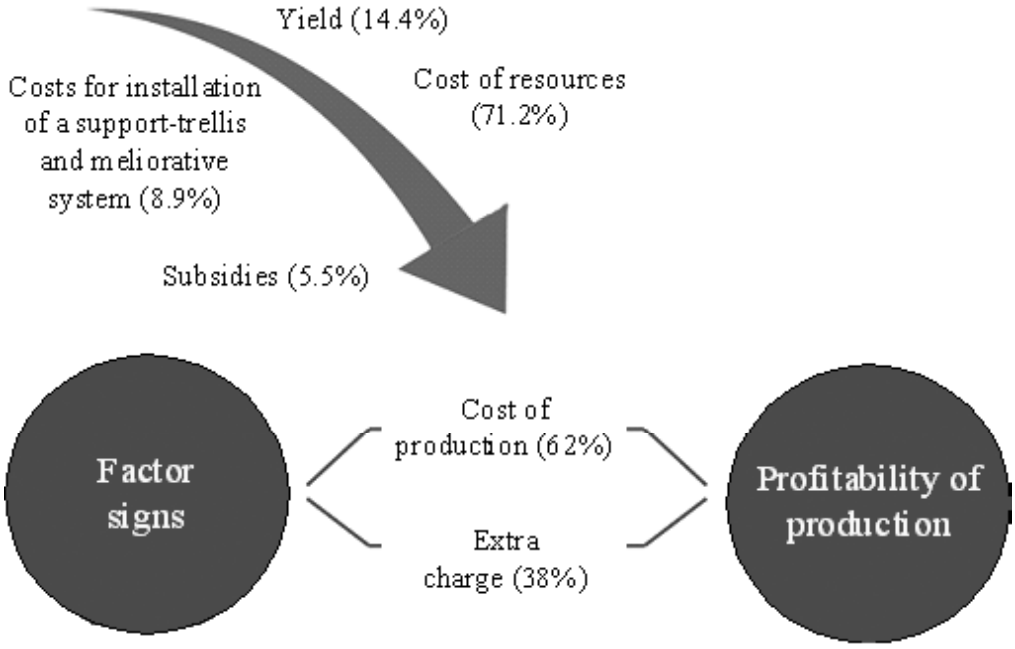

Figure 3: The degree of influence of factors on the efficiency of fruit production

of the system, which is under the influence of changing factors of the internal and external environment, to ensure the growth of quantitative and qualitative indicators, to carry out reproduction of the means of production, natural resources, and the environment.

Retrospective analysis allows us to claim that the implementation of planned parameters for renovations established in the State Program becomes impossible under the influence of the following factors: reduction of own reproduction capacities; reduction of state support; growth of the cost of consumed resources under the influence of macroeconomic price fluctuations (price disparity).

Characterizing the tools of MBO in the fruit and berry subcomplex, it is worth noting that there is a low level of validity of the goals and the tools that ensure the achievement of these goals. The effectiveness of MBO largely depends on the correct construction of an interconnected and interdependent system "Objective-Action-Result", the elements of which in an optimal combination form the emergence effect.

CONCLUSION

In our opinion, the main directions of improving the tools of MBO in the fruit and berry subcomplex of the Krasnodar Region can be the following:

1. Validation of the objectives and resources of the State Program. In our view, in this direction, it is necessary to increase and optimize the amount of state support. However, the rules and requirements set by the World Trade Organization (limitation and gradual reduction of state support within the "yellow basket") do not allow carrying out this activity. In this connection, the workaround can be the ideas and actions recommended by the researchers from the North Caucasian Region Research Institute of Horticulture and Viticulture of the Russian Academy of Agricultural Sciences to restructure the measures of state

support of fruit growing. It seems logically correct and promising to increase the level of intensity of use of cultivated areas. Linking this to the deficit of working capital and its adjustment in accordance with the deflator indices would partially increase the amount of state support and compensate for the additional costs of processing, protection and fertilization of perennial plantations.

Also very promising, in our opinion, is the possibility of reviewing measures to support domestic producers to subsidize the costs of nursery planting and caring for perennial plantations before entering fruition in terms of goal setting.

2. Lower capital intensity. The program involves the allocation of funds for the installation of trellis system and drip irrigation systems, which reduces the level of net profit by increasing depreciation costs. Thus, subsidies granted to agribusinesses providing for the development of horticulture to partially compensate for the installation of trellises in intensive gardens and costs associated with the acquisition of drip irrigation systems distort the reproduction processes by significant capital investments. A promising solution to this problem may be innovative developments in the field of creating small-sized agrocenoses on a chisle-pallet basis, as well as stimulating business entities by subsidizing the costs of acquiring these types of plantations. This direction can be considered as a set of measures to improve the ecology, increase the yields and reduce anthropogenic loads, in connection with which it is possible to consider the possibility of including these measures in the "green box".

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