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STRATEGIC COMPETITIVENESS MANAGEMENT OF MODERN HORTICULTURE: TARGETS AND DIRECTIONS

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Abstract

The protection of the domestic fruit market needs the development of horticulture in the country. Now, there is an attempt to increase the economic importance of the industry on farms with a commercial horticultural focus. Tambov region has a clear specialization in the production of stone fruits and berries in household farms, with parity in the production of pome fruits in household farms and agricultural organizations. They work systematically to improve the competitiveness of regional horticulture, from the establishment of intensive orchards to the development of industrial storage infrastructure. The paper defined the purpose of strategic managing the competitiveness of horticultural products. The authors proposed a methodology for calculating the coefficient of efficiency of strategic competitiveness management, tested in the fruit growing industry of the Tambov region. The results show a more than 13% improvement in strategic management over 2016-2019. The main factor that has made a major positive contribution to the value of the composite indicator for strategic management efficiency of fruit growing competitiveness was the achieved increase in the indicators for economic activity of agricultural specialized organizations. This article proposed the main directions of improving the competitiveness of regional horticulture, in a systematic combination covering the production, infrastructure, market areas of strategic management of the industry development based on improving the competitiveness of its main product - apples.

Keywords: Competitiveness, development, efficiency, horticulture, strategic management, Tambov region

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1. Introduction

The economic space of the Russian fruit and berry food market currently continues to be open to imports. The introduced anti-sanctions policy has contributed to two ways of counteracting the country's fruit shortages - redirecting the commodity flows of imports to cover needs in the short term, and restoring orchard areas - to build production capacity in the long term. On average, between 2012 and 2019, the country imported almost twice as much fruit as was produced by agricultural producers of all categories of farming.

The Tambov region is relatively prosperous in this respect. Its level of horticultural development made it possible to reduce fruit imports to 69.9% of total regional production by 2019. We should note that the problem of self-sufficiency in fruit at the level of 60% of demand is solved through a comprehensive approach that combines maintaining the supply of citrus and exotic fruits at the level of 17,000 tonnes, import substitution of fruits and berries of traditional crops, and ensuring the physical and economic availability of fruit and berry products. In turn, the main strategic steps made in the development of horticulture are to increase the use of intensive technologies for forming and growing orchards, fruit production on commercial farms - agricultural organizations and peasant (private) farms, increase sustainable fruit and berry production in them, and reduce losses in all links of the supply chain - from production to consumption. In this context, there are systematic efforts to economically move horticulture into the sphere of commodity production (Chaliapina & Kuzicheva, 2017; Karamnova, 2017).

In 2019, there was a concentration of 10,800 hectares of fruit and berry plantations in the Tambov region, or 12.9% of the orchards and berries of the Central Black Earth region. The region has a stable production structure among the categories of farming - practically allocation of the production of stone fruits (cherry, plum) and berries (black currant, garden strawberry) in household farms and production of pome fruits is equally distributed in household farms and agricultural organizations. Thus, on average, in 2016-2019, household farms produced about 100% of the total regional volume of stone fruit and more than 96% of berries, while pome fruits were only 45.8% (Nikitin et al., 2020). We should note that the region has seen a steady trend of moving fruit production into the economic sphere of agribusiness interests, with an average of 54.3% of pome fruits production in 2016-2019, an increase of 9.5% over the average for 2012-2015.

The basis for these changes was the increased availability of industry-specific innovative technologies for orchard formation and cultivation, and the increased use of industrial production methods in horticulture. We find confirmation of such conclusions in the analysis of the production indicators of fruit farming in the agricultural organizations of the Tambov region (table 01). The reproduction of the industry using intensive technologies of orchard formation, involving denser placement of trees per unit area, led to two radically different changes - the increase in fruit production followed by a reduction in pome orchards (Ivanova et al., 2018). Thus, on average, in 2015-2019, the number of apple trees in fruiting age in the region decreased by 33.3% compared to the average values of this indicator for 2012-2015, while the gross fruit yield increased by 19.4%. The main factor behind this increase was a 79.1% increase in fruit yield to 65.9 c/ha. The relatively low productivity of the orchards (30% of the potential fruit yield) is due to the young age of most of the trees. As of early 2020, about 70% of intensive orchards that have entered fruiting have not reached the age of maximum fruit yield. We should note that in the short term there will

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be no technological and economic "breakthroughs" in horticulture of agricultural organizations in the region due to the gradual transition to new principles of orchard formation, but in the medium term there may be accelerated growth of fruit yield and production volume, and, consequently, the volume of gross yield (Chaliapina & Kuzicheva, 2017).

Table 1. Area, gross yield and yield of pome fruits in agricultural organizations of the Tambov region in 2012-2019

	On average		The ratio of point 3 to point 2, %
	2012-2015	2016-2019	
Total area of pome fruits orchards, ha	6.0	5.7	94.5
including those in fruiting age	2.7	1.8	66.7
Gross harvest of pome fruits, ths cs	100.3	119.7	119.4
Fruit yield of pome crops, c/ha	36.8	65.9	179.1

This background needs to solve the problems of guaranteed provision of labour resources and sufficient capacities of sectoral infrastructure for storage, processing (Antsiferova et al., 2019; Korableva et al., 2018).

The solution to the shortage of manual labour, which occupies up to 75% of total labour costs, lies in attracting labour from nearby localities (Nikitin et al., 2019). In the face of migration outflows due to border closures, horticultural agribusiness organizations will have to increase the financial incentives for employees, shaping their own economic attractiveness on the labour market.

In horticulture, depending on the end-use of fruits (apples), there are commercial orchards, which products are sent to the food market in fresh form (after sorting and calibration), and raw orchards, which harvest is put up for sale in the raw materials market (Ivanova & Merkulova, 2018; Udulova & Mukhametzyanov, 2015). As a general rule, horticulture producers, seeking to extend the boundaries of demand for their fruit products as far as possible, focus on forming assortment structures and types of orchards that will ensure maximum profit while using production resources evenly throughout the year, forming both commercial and raw orchards.

We should note that there is a system of specialized horticultural organizations in the Tambov region, including fruit nurseries. The production of raw fruit is in full demand by the two canneries, whose total demand for apples is excessive in relation to the production capacity of the regional horticulture industry. Inter-sectoral relations in fruit and vegetable production are built between horticultural and processing organizations on a contractual basis. Experience from around the world confirms the effectiveness of this type of cooperation.

The success of the horticultural agribusiness largely determines the competitiveness of its products. While the wholesale buyers (canneries) consider a set of quality characteristics concerning the proportion of soluble solids, fruit size and weight, degree of maturity, damage, smell and taste typical of a given pomological variety, allowing for minor damage, the retail trade additionally considers surface colouring, skin roughness, fruit pulp condition and has a stricter treatment of the assumptions affecting the potential buyer's choice of purchase. In other words, competitiveness in the fresh fruit market is the most important property of a commodity which ensures the most rational match of need, production costs and selling prices, assessed by the consumer according to criteria of completeness of satisfaction and economic acceptability

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in comparison with peers on the market at any given time, and which ultimately contributes to ensuring a high demand for it.

The competitiveness of an agricultural horticultural organization depends on the levels of competitiveness and organization of its main branch, and these, in turn, depend on the degree of competitiveness of its products when choosing a buyer.

Managing the competitiveness of domestically produced fruit involves, first, solving strategic management problems related to strengthening the market and financial and economic position of agricultural producers, improving the quality of production, fruit trade and the efficiency of economic activity as a whole. It should aim to proactively, purposefully shape the future needs of people for highly nutritious horticultural products.

2. Problem Statement

The difficulties in rapidly improving the competitiveness of horticultural products stem from the specific characteristics of the industry - capital intensity, production lag, and the length of time it takes to establish a single site. Therefore, the competitiveness needs to be managed strategically and monitored on a continuous basis against the performance criterion. There is a great scientific and practical interest in the study of measures used to improve the competitiveness of apples as the main cash crop of agricultural producers in the Tambov region. This paper aims to address the problem of objectively assessing strategic competitiveness management in regional horticulture.

3. Research Questions

We can formulate the scientific hypothesis of the study as follows: the competitiveness of horticultural products depends on economic, market and technological factors, and directly depends on the level of implementing innovative solutions in the sphere of production and management of the industry. Accordingly, we believe it is appropriate to consider the following questions:

- to assess the current objectives in the strategic management of the competitiveness of horticultural products;
- to present the author's methodology for calculating the coefficient of efficiency of strategic management of horticultural products competitiveness;
- to develop the main directions for improving the competitiveness of horticultural products to be implemented in the foreseeable future.

4. Purpose of the Study

The purpose of this study is to define strategic objectives for managing the competitiveness of horticultural agribusinesses and to identify the main areas for the formation of their competitive advantages.

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5. Research Methods

The research involved the use of monographic, abstract-logical and computational-constructive methods. The reliability of the source material and the use of a set of economic research methods mutually corroborating the findings ensure the credibility and validity of the findings.

6. Findings

Strategic management of horticultural competitiveness should aim to increase the physical and economic availability of high quality fruit in an unstable and uncertain environment. The main directions for achieving such parameters for the development of the sector should evolve in the area of increasing its sustainability as the main centre for building the economic potential of economic entities, the region and the country as a whole. In fact, high product competitiveness is the main prerequisite for the future development of the specialized horticultural agribusiness, and the horticultural industry in the region as a whole. In this context, it is necessary to continuously monitor the level of effectiveness in strategic sectoral competitiveness management.

Specific directions for strategic management of horticultural competitiveness should follow a retrospective analysis of its performance indicators. We believe that the most adequate results of such studies are possible when applying the methodology for calculating a composite indicator of competitiveness that considers changes in the main aspects of the market "life" of a commodity, in this case domestically produced fruit. In formulaic form, such calculations are represented by the equality

$$K_c = \sum_{j=1} (\frac{p_{ij}^f}{p_{ij}^n} * \alpha_j) * \beta_m,$$

where the K_c is the coefficient of performance of strategic product competitiveness management; j is the indicator group of the assessment aspect; i is the group indicator of the j-th aspect; f is the actual value of the i-th indicator, t, rub, shares; n is the normative (planned) value of the i-th indicator, t, rub; α_j is the impact weight of the indicator $\frac{p_{ij}^f}{p_{ij}^n}$ in the j-th aspect, shares; β_m is the impact weight of the j-th aspect on the outcome, shares.

The normative value of this indicator should be greater than 1, which would indicate a stable market position of the product. In addition, the dynamics of the strategic competitiveness management coefficient over a period of at least 3 years need a retrospective assessment to objectively assess the market development potential of the promoted product.

The research on strategic management of the competitiveness of fruit production with regard to the production of pome fruits has shown the following findings:

1) the low competitiveness of apples produced by regional producers on the consumer market;

2) their efforts to change their market presence policy in terms of making apples produced in the Tambov region more attractive for the mass consumer (the K_c value increased by 30.5% over 4 years). (Figure 01).

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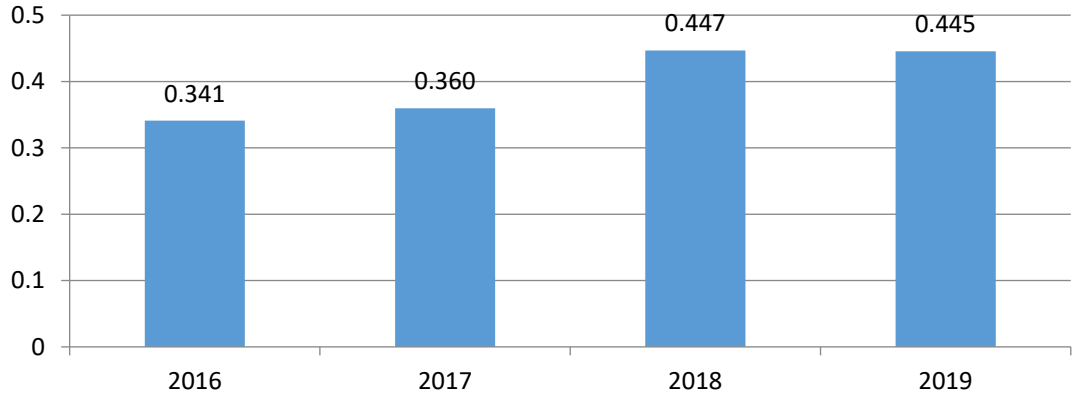

Figure 1. Efficiency coefficient for strategic management of the competitiveness of pome fruits in specialized horticultural organizations of the Tambov region in 2016-2019

Improving the competitiveness of pome fruits from the strategic perspective will be linked to the following factors:

- introducing modern technologies for harvesting and storing fruit, which will allow preserving the quality of commercial products for a long period (up to 9 months) and making better use of market fluctuations;
- communicating to the consumer about the level of environmental friendliness of products;
- intensifying the search for market niches for apple sales;
- upgrading the machine and tractor fleet and the fleet of professional gardening equipment on specialized farms;
- improving the soil fertility of land plots occupied by orchards;
- developing ergonomic horticulture;
- developing a system of horticultural testing centres;
- increasing state regulation of the fruit market (inclusion of dried juices in the list of foodstuffs for which commodity and purchase interventions are applied).

7. Conclusion

Thus, strategic management of the competitiveness of apples produced by regional producers should focus on achieving the targets of sustainable horticultural development based on improving their market position and address areas for improving production, trade and external communication with consumers.

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