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Theoretical and Methodological Aspects of the Assessment Economic Efficiency to Ensure the Veterinary Welfare in Region.

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ABSTRACT

This article is had devoted to studying the problems of complex estimation efficiency function regional veterinary service, which is an integral element in providing veterinary welfare of the country. For this, in our opinion, it is necessary to reconsider the role of veterinary services at the regional level from the structure to ensure the safety agricultural livestock to the infrastructure subsystem of agriculture, providing veterinary welfare.

Keywords: economic efficiency, welfare, veterinary, veterinary service, internal efficiency, external efficiency.

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INTRODUCTION

For most States, today, one of the strategic tasks in the sphere of agriculture is to increase livestock products. For third world countries these tasks are difficult to achieve because of extensiveness technologies in industry, and for some countries because of lack efficient forage base. As a result, inefficient and uncontrolled increase of animals entails a number of problems such as environmental threats associated with the degradation of pastures, irreversible changes in the genetic resources of the local flora and fauna, increase in the number of burial sites and other (Anderson, K, etal, 2014). In addition to environmental threats, nemenee important are the threats associated with the spread anthroozoonotic diseases such as brucellosis, tuberculosis, leptospirosis, etc.) [1].

The solution high livestock activity in many respects depends, including, and from the level of implementation veterinary activities. In our opinion, veterinary medicine is one of the key factors to maintenance effective animal husbandry, and ensures food security of both States and individual territorial entities.

Veterinary infrastructure is a set of interrelated institutions, organizations and enterprises operating at different levels of management. Their curative and preventive activities create the General conditions to ensure the veterinary welfare of territories and, as a consequence, improve the economic results of cattle breeding, protection population from diseases common to humans and animals. In this study I would like to pay the most attention to the problem of evaluation economic efficiency of veterinary activities on the regional level.

MATERIALS AND METHODS

There is a method based on evaluation effectiveness of veterinary measures. This technique has served us as a basis for the calculation coefficient of internal efficiency. Summarizing the methodological basis, we suggest that it be expanded and deepened in terms of the notation external relations and comprehensive account an indicators of internal and external efficiency. Our proposed method is based on calculation integral coefficient of economic effectiveness to ensuring veterinary wellbeing. For its calculation we propose to use the following method:

$$K_{\text{integral}} = w \times K_{\text{int}} + (1-w) \times K_{\text{ext}}$$

K_{integral} – integral coefficient of economic effectiveness to ensuring veterinary wellbeing the region,
 K_{int} – the coefficient internal efficiency,
 K_{ext} – the coefficient external efficiency,

To calculate the coefficient internal efficiency, we propose to use the following formula:

$$K_{\text{int}} = E_{\text{vet}} \times K_{\text{lab}} \times 1/L_{\text{ill}} \times 1/L_{\text{mur}}$$

E_{vet} – the effectiveness of therapeutic and preventive measures,
 K_{lab} – the coefficient of labor efficiency,
 L_{ill} – level of animal disease,
 L_{mur} – the level of mortality an animals.

The coefficient of external efficiency is calculated by the formula below:

$$K_{\text{ext}} = E_{\text{med}} \times E_{\text{eco}}$$

E_{med} – the effectiveness of veterinary measures, which manifests itself in the field of public health,
 E_{eco} – the effectiveness of veterinary measures, which manifests itself in the field of environmental protection.

RESULTS AND DISCUSSION

For regional level, the role of veterinary service is not limited to achievement their own positive results. In the context of economic evaluation the veterinary infrastructure in the region, external efficiency is reflected in creation of economic benefits for study area, such as: cost savings for elimination of foci particularly dangerous animal diseases, reducing incidence of diseases common for humans and animals, and, as a consequence, reduction expenses not associated with farming. This can be costs associated with the disability of infected people, and damage to the environment.

Internal efficiency, in our opinion, is had reflected in the achievement of their own objectives of regional veterinary services. First and foremost, are the rational use material, labor and financial resources, and use appropriate methods and tools for solving issues related to preservation an animal's health. In modern science and practice, this component is more methodically elaborated and justified.

Using the proposed method, we carried out calculation integral coefficient of economic effectiveness to ensuring veterinary wellbeing region for subjects Russian Federation. By results of calculation, you can generate following grouping of regions by the level of effectiveness animal welfare (figure 1).

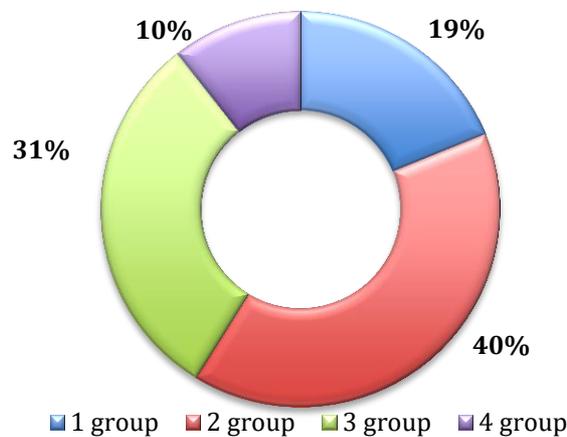


Figure 1: Group of Russian regions by the level of economic effectiveness to ensuring a veterinary wellbeing

The figure shows that the first group of regions, namely 19% of total number regions should be considered as quite inefficient from the point of view efficiency ensure veterinary wellbeing. These include Republic of Kalmykia, Voronezh Region, Republic of Buryatia, and others.

According to the data of figure 1, most regions of the Russian Federation, namely 34, which is 40% total number of subjects is insufficiently effective from the position to ensuring animal welfare. Among these regions are Kaliningrad, Bryansk, Penza regions, the Chuvash Republic, Khabarovsk Krai, and others. For these regions, characterized by presence of a significant number disadvantaged areas for dangerous and especially dangerous animal diseases, such as rabies, African swine fever, foot and mouth disease and others.

More than 30% regions of the Russian Federation can be refer to subjects with a satisfactory level efficiency to ensuring veterinary wellbeing is regions such as Tatarstan, the Chechen Republic, Krasnoyarsk, Stavropol Krai, Moscow, Orel, and others. There are veterinary unfavorable items at the same cost results in these regions are more stable in comparison with the previous group of regions.

The fourth group of regions represent subjects with a moderate level of effectiveness in delivering veterinary welfare, such regions, only 9 and their share is about 10% of total number regions. These include Krasnodar Krai, Republic of Bashkortostan, Tomsk Region, Novosibirsk Region and others.

CONCLUSION

The results study allows us to conclude about the necessity of reducing number regions with low economic efficiency indicators to ensuring animal welfare. These areas are potential threat to spread dangerous diseases and illnesses common to humans and animals. To overcome existing imbalances is only possible if you use a systematic approach to prevention diseases of livestock and reduce economic losses livestock and related industries, which are achievable with right balance of interaction all subjects veterinary infrastructure with an internal and external environment.

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