Available online freely at www.isisn.org

Bioscience Research

Print ISSN: 1811-9506 Online ISSN: 2218-3973

Journal by Innovative Scientific Information & Services Network

RESEARCH ARTICLE BIOSCIENCE RESEARCH, 2020 17(4): 4118-4123. **OPEN ACCESS**

Research of the labor processes of veterinary specialists at enterprises of various fields of activity

Dmitry Pomerantsev*, Ali Aliev, Polina Shekshuyeva, Natalia Semenenko and Diana Zakhodnova

Saint Petersburg State University of Veterinary Medicine, Saint Petersburg, **Russia**

***Correspondence:** doooctor245@gmail.com **Received 30-10-2020, Revised: 27-12-2020, Accepted: 28-12-2020 e-Published: 29-12-2020**

The article presents the results obtained using the timing of the working time of veterinarians during the execution of veterinary accompanying documents in the information system "Mercury", obtained by analysis and mathematical calculations when processing the work of veterinary specialists at the Veterinary Station of the Admiralteisky, Moskovsky, Frunzensky and Central regions of the State Budgetary Institution "St. Petersburg City Veterinary Station ". The main labor processes of a veterinary specialist at an enterprise are determined, depending on its type: processing, wholesale, wholesale and retail. Revealed significant differences in the types of labor processes, depending on the specifics of the enterprise, the results obtained are analyzed and, using generally accepted methods, the norms of time for their implementation are determined. The results of chronometric studies of labor processes are scientifically substantiated and can be used to calculate the labor load on a veterinary specialist in a complex and in individual production tasks, within the framework of the spent operational time.

Keywords: veterinary specialist, timing, labor costs, paperwork.

INTRODUCTION

One of the main and important tasks in organizing the work of the veterinary service is the organization of planning and calculation of the staffing table of veterinary specialists (Nikitin, 2014). To obtain the necessary data during planning in veterinary medicine, it is necessary to conduct a timekeeping of the working day of a veterinarian and an analysis of his activities (Nikitin, 2014; Pomerantsev, 2018). The issuance of veterinary accompanying documents in the information system "Mercury" began quite recently and research on the timing of the working time spent by a veterinarian has not been conducted before, due to the need to standardize the work of veterinary specialists, such studies were carried out by us.

MATERIALS AND METHODS

The work was carried out on the basis of the results obtained during research at the Veterinary Station of the Admiralteisky, Moskovsky, Frunzensky and Central regions of the state budgetary institution "St. Petersburg City Veterinary Station".

To obtain and process the results obtained, the research method was used, based on the analysis and application of generalizing factors and including the theoretical generalization of the data obtained, as well as the use of mathematical methods. To obtain basic data based on obtaining the results of labor costs of veterinary specialists, the method of timing, photography and photo timing of working hours was used.

RESULTS AND DISCUSSION

The organization of work of a veterinary specialist at enterprises of various types of activity

differs depending on the type of enterprise served (Aliev, 2018).

The method of timekeeping of working hours was applied to study the most frequently repeated work practices, taking into account the applied gradation by the type of enterprises served.

In the structure of working time expenditures, daily, one-time and periodically repetitive jobs are distinguished (Akmullin, 2004; Shekshuyeva, 2019).

At processing plants, the following works were subjected to timing studies: inspection of incoming raw materials, control of production of intermediate raw materials, inspection during the manufacture of a batch of products (sausages, semi-finished meat products, fish semi-finished products), registration of veterinary accompanying documents for a batch of manufactured products, registration of veterinary accompanying documents when changing the owner products, accumulation of biological waste for disposal or destruction, sampling of products for laboratory research (Pomerantsev, 2017; Pomerantsev, 2018; Shekshuyeva, 2019).

At wholesalers, the following works were subject to timing studies: inspection and identification of incoming products, inspection and identification of products during shipment, preparation of veterinary accompanying documents when changing the owner of products (Pomerantsev, 2017, Shekshuyeva, 2019).

At wholesale and retail trade enterprises, timing studies were performed: inspection and identification of incoming products, inspection and identification of products during shipment, preparation of veterinary accompanying documents when changing the owner of products, control over the sale of products through the retail network (Pomerantsev, 2017).

The results of the timing of the operational work of veterinary specialists at processing enterprises:

The peculiarities of the work of a veterinary specialist at a processing plant are:

1- Inspection and identification of incoming raw materials for the manufacture of products is represented by a wide range.

2- Receipt of raw materials with special storage and processing conditions.

3- Control over the formation and storage of production by-products and their further use.

4- A large volume of veterinary and sanitary measures carried out.

5-Registration of veterinary accompanying documents for a batch of manufactured products involves generalization of the entered information and takes more time than issuing a veterinary accompanying document when changing the owner of a product.

6- Lack of uniform technical equipment of processing enterprises.

Table 1: Working hours of a veterinarian at processing plants

The name of the investigated labor process	Time spent on the implementation of one labor process by 1 veterinarian
Acceptance of palletized products sealed in cardboard boxes (minutes per ton)	6.1±0.2
Acceptance of non-palletized products sealed in cardboard boxes (minutes per ton)	7.0±0.3
Acceptance of individually labeled products (minutes per ton)	8.3±0.6
Acceptance of carcasses, half carcasses, quarters (minutes per 1 ton)	9.1±1.0
Registration of a batch of finished meat products in IS "Mercury"	9.8±0.3
Registration of a batch of semi-finished meat products in IS "Mercury"	10.0±0.3
Registration of a batch of fish semi-finished products in IS "Mercury"	9.5±0.2
Registration of a batch of canned food in IS "Mercury"	8.4±0.3
Registration of a veterinary accompanying document for finished products when changing the owner in IS "Mercury"	7.1±0.6
Registration of a veterinary accompanying document for the accumulation of biowaste in IS "Mercury".	8.0±0.3
Registration of a veterinary accompanying document when processing a document for further disposal, destruction or further use in IS "Mercury".	6.4±0.3
The time spent by a veterinarian on sampling at a processing plant for ongoing production control.	19.96±1.5

The table shows the time spent on the main repetitive work processes of a veterinarian at a processing enterprises.

The results of the timing of the operational work of the veterinary specialist at the wholesale and retail trade:

The operational time of a veterinary specialist at a wholesale and retail trade includes labor costs for:

1-Participation in the conduct of veterinary and sanitary measures.
2-Inspection and identification of incoming products
3-Supervision of compliance with product storage conditions.
4-Identification of shipped products and registration of accompanying veterinary documents when changing the owner of the product.
5-Accounting for products sold through the retail network.

The peculiarities of the work of a veterinarian at a wholesale and retail enterprise are:

1- A wide range of incoming products.
2-Often small batches of incoming products.
3- Non-uniform storage conditions for products.
4- Shipment of a range of products in small batches.
5-Keeping records of the amount of food products sold through the retail network.

Table 2: Costs of working time of a veterinary specialist at wholesale and retail trade enterprises

The name of the investigated labor process	Time spent by 1 veterinarian (min / ton)
Acceptance of palletized products sealed in cardboard boxes (minutes per 1 ton)	6.3±0.2
Acceptance of non-palletized products sealed in cardboard boxes (minutes per ton)	7.4±0.3
Acceptance of individually labeled products (minutes per ton)	8.9±0.6
Acceptance of carcasses, half carcasses, quarters (minutes per 1 ton)	9.9±1.0
Registration of sealed palletized products in IS "Mercury"	7.5±0.6
Registration of sealed non-palletized products in IS "Mercury"	8.7±0.6
Registration of unsealed products with individual markings in IS "Mercury"	10.3±0.6
Registration of carcasses, half carcasses, quarters in IS "Mercury"	10.9±0.6
The expenditures of the veterinarian's working time on the implementation of accounting and control of food products sold through the retail network in the IS "Mercury" (for 1 day)	23.1±2.6

The table defines the time spent on the implementation of the main labor processes of a veterinary specialist at a wholesale and retail enterprise, taking into account the specifics of his activities.

It has been established that the greatest labor costs of veterinary specialists are spent on inspection and identification of incoming and manufactured products, which varies depending on the type of product packaging and the need to verify product labeling. Thus, sealed boxes with a label do not require an individual inspection of the contents, which in turn allows for a faster inspection. Products that are not sealed and have individual markings require more attention and time when inspecting and identifying them. Branded products, which include carcasses, half carcasses and quarters, also require more time to inspect and identify them due to the need for individual inspection and verification of brands. Also, a feature of the inspection and identification of incoming and outgoing products is the technical equipment of the enterprise, so enterprises equipped with technical means that allow quick access to the inspection of products require less time and labor resources. It has been established that the smallest time spent on inspection and identification of products is spent at wholesale enterprises, due to the availability of technological conditions for fast transportation and weight control of products, the highest rates of operational time consumption are found in enterprises operating in the field of wholesale and retail trade. due to the fact that the processes allowing to provide a technically quick inspection of products are often not provided and most of the work is carried out with the use of manual labor and the use of human resources, which most often complicates the prompt acceptance and shipment of products.

Differences in operational work at enterprises of various types of activity are revealed, so when servicing enterprises conducting their main activities in the field of wholesale trade, operational work includes the least number of labor processes, when servicing processing enterprises, the number of labor processes is greatest, when servicing wholesale and retail enterprises in operational time includes supervision of products sold through the retail network, which in turn, based on the above problems in the field of technical support, entails a greater amount of time spent on carrying out the necessary labor processes.

Table 3: Standards of time for inspection, identification and clearance of incoming products at enterprises

Labor process name	Time allowance for the labor process (min./1 ton)	The time limit when inspecting products over 1 tonne (+ for each tonne inspected) (min)	Time allowance for the labor process (min./1 ton)	The time limit when inspecting products over 1 tonne (+ for each tonne inspected) (min)	Time allowance for the labor process (min./1 ton)	The time limit when inspecting products over 1 tonne (+ for each tonne inspected) (min)
	Wholesale enterprises		Wholesale and retail enterprises		Processing enterprises	
Inspection and identification of products palletized and sealed in the original container	6,0	1,1	6,3	1,2	6.1	1.2
Inspection and identification of products not palletized and sealed in the original container	6,7	1,8	7,4	2,3	7.0	2.1
Inspection and identification of non-sealed products with individual markings	8,1	3,2	8,9	3,8	8.3	3.4
Inspection and identification of products with individual brands	8,9	4,0	9,9	4,8	9.1	4.2
Inspection and identification of mixed products	7,43	2,53	8,13	3,03	7.63	2.73

Table 4: Time limits for inspection, identification and clearance of products at the processing plant

Labor process name	Time rate for the labor process (min / 1 ton)	Norm of time when inspecting products over 1 ton + for each inspected ton) (min)
Registration of a batch of finished meat products	9.8	1.8
Registration of a batch of semi-finished meat products	10.0	1.8
Registration of a batch of fish semi-finished products	9.5	1.8
Registration of a batch of canned food	8.4	1.8
With the accumulation of biological waste	8.0	

Table 5: Rates of time for sampling in a laboratory for production control at a processing plant

Labor process name	Time allowance for the labor process (1 sample / min)
Sampling and execution of accompanying documentation	19.96

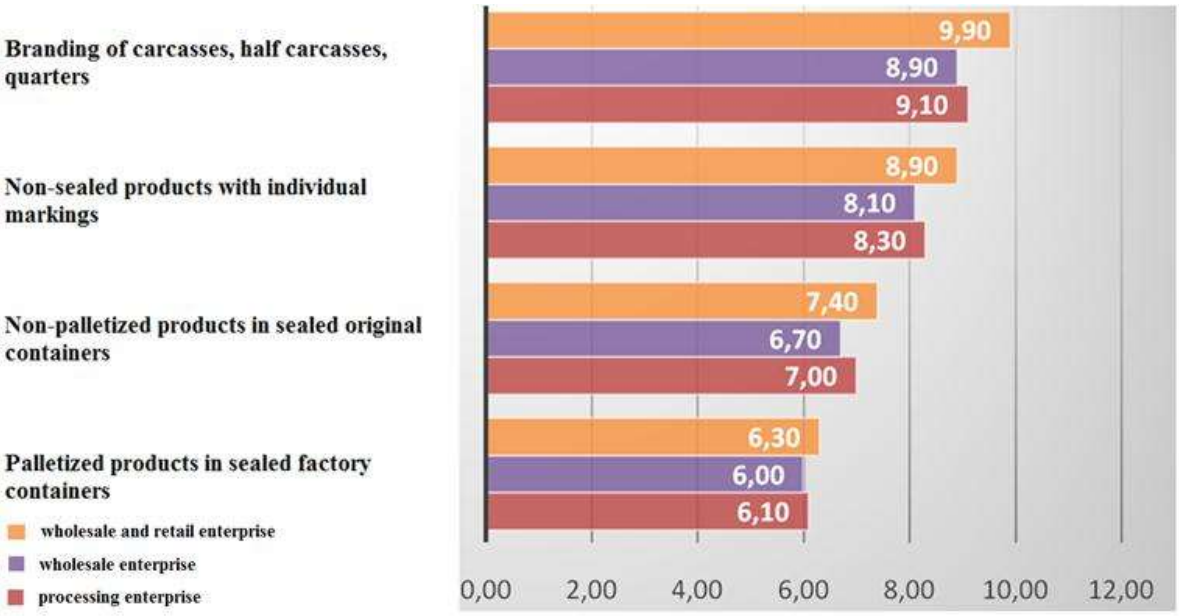

Figure 1: The ratio of labor costs for jobs of the same name at enterprises of various forms of activity, minutes

A small amount of time is spent on the registration of the accompanying veterinary documentation, there is no need for additional accounting of products, in connection with the provision of IS all the necessary services to keep records of products.

Research has established scientifically substantiated norms of time for carrying out typical labor processes related to the operational work of a veterinary specialist at enterprises of various forms of activity, when using electronic accounting systems. The results are shown in Tables 3-5.

According to the data obtained, the maximum amount of time is spent by the veterinarian for examination and identification with individual stamps. By the type of activity of enterprises, the maximum amount of time for inspection and identification of incoming products is spent at wholesale and retail trade enterprises.

CONCLUSION

The work of veterinary specialists at enterprises of various types of activity: wholesale enterprises, wholesale and retail enterprises, processing enterprises differs in the structure of time spent on the assigned production tasks. The results obtained by the method of timing, photographs and photographic timing of the working time of veterinary specialists at various enterprises made it possible to determine the time required for the implementation of all stages of the labor process at different types of serviced enterprises. The data of these studies are necessary to calculate the load factor and labor rationing in a scientific approach to the intra-branch division of labor of a veterinary specialist in planning and calculating staffing levels by the type of enterprise served.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

ACKNOWLEGEMENT

The research was carried out within the framework of state assignment No. 082-00041-20-00 dated 23.12.2019.

AUTHOR CONTRIBUTIONS

D. Pomerantsev designed and performed the experiments and also wrote the manuscript. A. Aliev, P. Shekshuyeva, and N. Semenenko performed data collection and analysis. D. Zakhodnova designed experiments and reviewed the manuscript. All authors read and approved the final version.

REFERENCES

Akmullin AI, 2004. Veterinary service in the constituent entities of the Russian Federation and its staffing. Kazan, Russia.

Aliev AA, Pomerantsev DA, Shekshuyeva PO, 2018. Method for calculating the load factor for a veterinary specialist when servicing enterprises of various types of activity. Regulatory issues in veterinary medicine (4): 28-30.

Nikitin IN, 2014.Organization and economics of veterinary medicine. Saint-Petersburg, Russia.

Pomerantsev DA, Shekshuyeva PO, 2017. Comparative assessment of the tasks set and their implementation before the federal veterinary service and the veterinary service of the constituent entities in the Russian Federation, taking into account the use of electronic accounting systems. Kostroma, Russia.

Pomerantsev DA, Shekshuyeva PO, 2017. The work of a veterinarian in a megalopolis on the example of the city of St. Petersburg, taking into account the use of electronic accounting systems.Agricultural science in the context of modernization and innovative development of the agro-industrial complex of Russia. Ivanovo, Russia.

Pomerantsev DA, Shekshuyeva PO, 2018. Labor rationing for veterinarians using electronic accounting systems in their work. Scientific notes of the Kazan State Academy of Veterinary Medicine named after N.E. Bauman 233 (1): 29-132.

Pomerantsev DA, Shekshuyeva PO, 2018. The use of electronic accounting systems in the work of the veterinary service on the territory of the subjects of the Russian Federation. Saint-Petersburg, Russia.

Shekshuyeva PO, 2019. Organization of veterinary services for enterprises engaged in the production, storage and sale of livestock products using electronic accounting systems. Saint-Petersburg, Russia.