

of statistically significant differences obtained in the Vitebsk region 1.58 times, Dubrovno district of 1,33 times, Beshenkovichi district 1.24 Shumilinskiy area of 1,41 times in Ushachi 1,58 times, Sunanskom district 1,42 times (table 2).

**Conclusion.** The study identified a pattern. Namely: catalase activity prevails in the cold season. Catalase is an enzyme that destroys free radicals of the peroxide of hydrogen produced during the different oxidation processes. Therefore, in the cold season the clams are experiencing oxidative stress, in which stands out an excessive amount of hydrogen peroxide, the neutralization of which occur due to the increase of catalase activity.

1. Shorets, M.A. evaluation of the degree of anthropogenic loading on soils of Vitebsk for the main diagnostic indicators / M.A. Shorets, D.A. Orlova, O.M. Balaeva-Tihomirova // Herald of Vitebsk State University. – 2017. – №2(95). – P. 62–69. URL: <https://rep.vsu.by/bitstream/123456789/11483/1/62-69.pdf> (date accessed: 5.11.2022).

2. Balaeva-Tikhomirova, O.M. Hormonal and metabolic interrelationships in the development of insulin resistance syndrome: monograph / O.M. Balaeva-Tikhomirov. – Vitebsk: VSU named after P.M. Masherov, 2013. – 177 p.

## ENVIRONMENTAL ACTIVITIES AND STUDENT VOLUNTEERSHIP

**Tatyana Kravtsova**

VSU named after P.M. Masherov, Vitebsk, Belarus

Keywords: nature protection, volunteering, students.

Volunteering is an important part of modern society. It helps to reveal the socially significant qualities of the individual. Volunteering is of particular relevance in our time. Volunteer detachments, organizations and movements are being created in our country. Volunteering includes various areas: social, sports, medical, environmental and others. Student youth play an important role in the development of volunteering; volunteer activities are being developed in many educational institutions and volunteer teams of various directions have been created. On the basis of the Faculty of Chemical, Biological and Geographical Sciences of VSU named after P.M. Masherov, the Ecological Patrol volunteer detachment operates, of which I have been a member since 2020 [1, p. 39]. The main direction of the work of the detachment is environmental volunteering, participation in environmental activities and involving the general population in it.

The purpose of the work is to study the main directions of environmental protection activities of the student volunteer group "Ecological Patrol".

**Material and methods.** The work uses analytical, comparative and descriptive research methods. The analysis of these reports and published materials of the work of the Ecological Patrol volunteer detachment over the past five years was carried out [1, 2]. The experience of personal participation in the work of a volunteer team is systematized and described. The main directions and forms of work in the field of nature protection are determined.

**Findings and their discussion.** Student brigade "Environmental Patrol" in the period from 2017 to 2022. took part in a number of environmental events: annual environmental campaigns; environmental campaigns for cleaning and improvement of

the territory of Vitebsk and its environs; participation in seminars, round tables, exhibitions on ecology and nature protection; participation in competitions on ecology and nature protection; research work and participation in scientific and practical conferences; participation in the work of the Public Coordinating Ecological Council under the Vitebsk Regional Committee of Natural Resources and Environmental Protection; internship in public ecologists on the basis of the Vitebsk city inspection of natural resources and environmental protection; dissemination of environmental information, presentation of reports to the population of the city; carrying out environmental events and joint participation in environmental events with students of schools and gymnasiums. A detailed description of some areas and individual activities are given in the Table.

Table – The main areas of environmental protection activities of the volunteer detachment Ecological Patrol

Areas of work	Main activities (see Figure)
Annual environmental campaigns.	Forest Week", "Let's Do It", "Bird Day", "Car Free Day", "Earth Hour", environmental action, within the framework of the global environmental campaign "Let's equip our small homeland".
Participation in competitions on ecology and nature protection.	Republican competition "Youth for the cleanliness of cities and villages"; Border Youth Festival "Where does the Motherland begin?"; action-competition "Ecology of the soul and the image of a young man of the 21st century".
Ecological campaigns for cleaning and improvement of the territory of Vitebsk and its environs.	Together with the Vitebsk City Inspectorate, the PRIEP took part in restoring order on the territory of the street. Gagarin, st. Frunze, near the Korona shopping center, the Belarus shopping center, the Frunze park, the coastal zone of Lake Beloe, the forest park zone near the Luchesa River, the Yuryeva Gorka area, the territory of the Dnieper and Orshitsa Rivers, Orsha.
Participation in seminars, round tables, exhibitions on ecology and nature protection.	Seminar-meeting on the issues of separate collection of waste on the basis of the Republican Center for Ecology and Local History in Minsk; International Volunteer Forum "Dobroforum", St. Petersburg, 1st International Specialized Exhibition "Ecology Expo – 2021", XVI Republican Ecological Forum.
Participation in the work of the Public Coordinating Ecological Council under the Vitebsk Regional Committee of Natural Resources and Environmental Protection.	Participation in the work of the council, presentation with reports on the main directions of the work of the detachment.

<p>Internship in public ecologists on the basis of the Vitebsk City Inspectorate.</p>	<p>Acquaintance of students with the tasks of the inspection, assistance in the preparation and maintenance of documents drawn up in the inspection, participation in field events.</p>
<p>Research work and participation in scientific and practical conferences.</p>	<p>Research is being carried out to collect and analyze material within the framework of the work of the student research laboratory "Ecology of the Urban Environment", 24 abstracts have been published based on the results of conference materials.</p>

In total, over the past five years, students have taken part in more than 60 events (see Figure), received diplomas and certificates for participating in the volunteer movement, certificates of public ecologists.

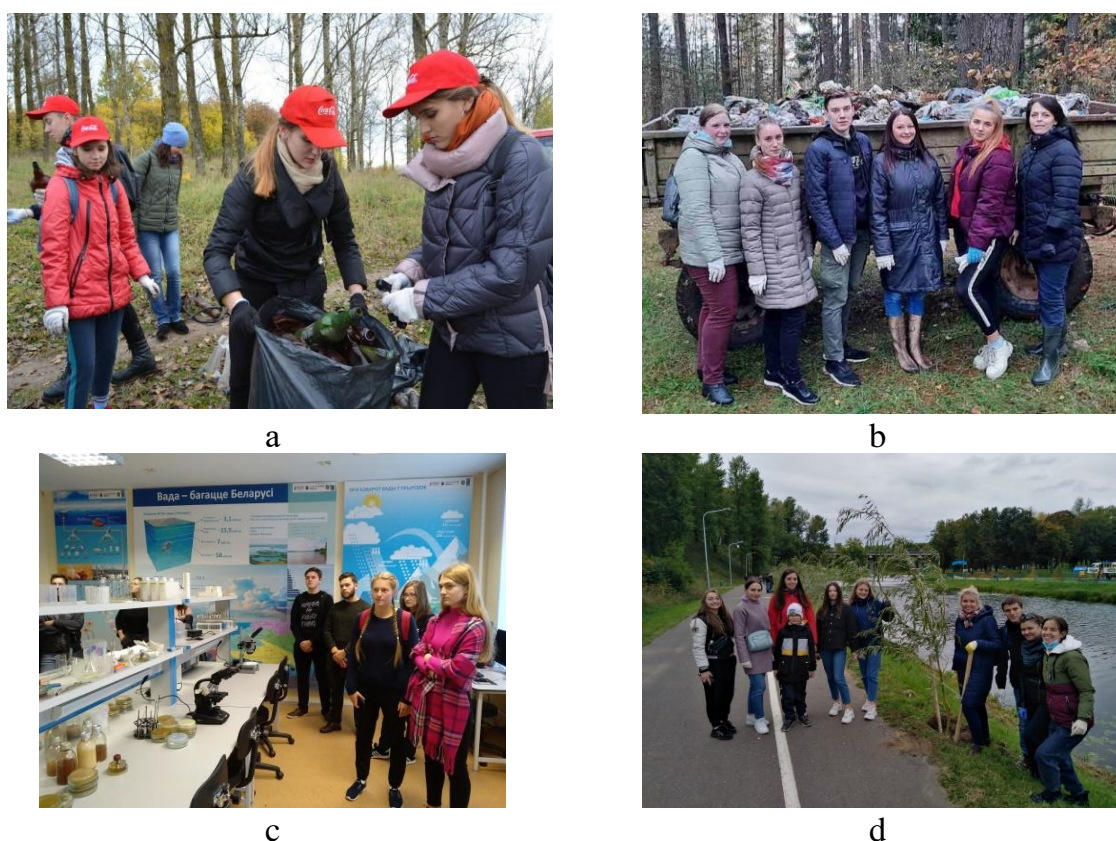


Figure – Participation of student volunteers in environmental events

a – the action "We care" together with the Republican Center for Ecology and Local History, the Coca-Cola Beverages Belorussia enterprise, b – cleaning the shoreline of Lake Belye together with the Vitebsk Regional Committee of EPEP; c – educational seminar-meeting on the issues of separate waste collection, d – planting trees on the Day of National Unity, the bank of the Vitba River

**Conclusion.** Volunteering is an integral part of our lives and plays a huge role in our spiritual development. The work of the student volunteer team in the field of environmental protection is diverse and related to the interests of students. It gives the opportunity to gain experience in communication with like-minded people, the opportunity to practice professional environmental skills, work in a creative team. Over the past five years, students of the squad have participated in more than 60 events at various levels.

1. Balashova, I.E. Implementation of technological aspects of contextual learning in the branches of departments in the preparation of future specialists / I.E. Balashova, I.A. Litvenkova, M.Yu. Masherava. – 2022. – № 1. – P. 85–91. <https://rep.vsu.by/handle/123456789/31969>

2. Bezhenar, Yu. P. Organization of the work of the student volunteer group "Ecological Patrol" on the basis of VSU named after P.M. Masherov / Yu.P. Bezhenar, I.A. Litvenkova, E.V. Shamatulskaya // Higher School. – 2020. – №2. – P. 38–41. <https://elib.bsu.by/handle/123456789/248365>.

## PROBLEMS OF REPRODUCTION OF LABOR RESOURCES RURAL TERRITORIES OF THE VITEBSK REGION

Angelina Luneva<sup>1</sup>, Natalia Novikova<sup>2</sup>

<sup>1</sup>VSU named after P.M. Masherov, Vitebsk, Belarus,

<sup>2</sup>RSSU, Moscow, Russia

Keywords: labor resources, rural area, Vitebsk region.

For a long period, there has been a steady decline in the population in the rural areas of the Vitebsk region of Belarus. The working-age population is of great importance for the economic development of the region. The formation of labor resources and their use in various sectors of the national economy of the region have their own characteristics. In agriculture, the number of workers directly involved in the production of products is decreasing. Given the current situation, the growth of the able-bodied population, which makes up the bulk of the workforce, is problematic and their sources in rural areas are problematic. Therefore, taking into account the peculiarities of agricultural production, economic growth in agriculture (the main area of application of the labor of the rural population) can only be ensured on the basis of an increase in labor productivity [1].

The purpose of the study: to analyze the quantitative composition of the labor force in rural areas of the Vitebsk region.

**Material and methods.** The information base of the study was the data of the results of the population censuses of the Republic of Belarus for 2009 and 2019 and the National Statistical Committee of the Republic of Belarus [2, 3]. Comparative geographic, statistical and analytical methods were used.

**Findings and their discussion.** In 2019, the rural population of the Vitebsk region was 22%, and its share is constantly decreasing (27% in 2009). Natural and migration decline leads to a stable reduction and aging of the rural population and significantly affects the dynamics of all major demographic processes.

The reduction in the working-age population leads, first of all, to a reduction in the labor force, as well as to an increase in the proportion of people in old age. If in 2009 the post-working population accounted for 31.9%, then in 2019 this share increased to 34.1%. The demographic burden on the working-age population is increasing all the time: 597 pensioners in 2009 and 672 in 2019. All this increases the cost of pensions, medical services and social assistance for the elderly.

Analyzing the structure of the rural population by sex in working age, there is a noticeable excess of men. The exodus of young women from rural areas leads to a disproportionate sex ratio and, most often, this has an economic basis. In rural areas it