

The root system of meristem potato plants *in vitro* cultivated on this medium is more powerful, and such plants root better in the soil, as a result, the multiplication factor also increases.

Adding an increased concentration of nicotinic acid to the Murashige and Skoog nutrient media does not significantly affect the number of culled plants. So in control, 144 plants were culled, which amounted to 1.78%. In a nutrient medium with a high concentration of nicotinic acid, this indicator totals 1.55%. In a quantitative ratio, the control is 144, and in a nutrient medium with nicotinic acid 170. The yield of plants is 7,960 and 10 779 correspond to the control and MS + 1 ml nicotinic acid.

**Conclusion.** In modern conditions, it is extremely important to find effective ways to optimize the process of original seed production in the direction of reducing the necessary material, labor, energy resources and reducing production costs, especially at the stage of growing mini-tubers.

Thus, we have established that an increased concentration of nicotinic acid in the nutrient medium Murashige and Skoog has a positive effect on the number of microplants. By The number of plants increased by 2 845 pieces relative to the control, which in percentage was + 15%. The development of microplants is directly dependent on the composition of the nutrient medium.

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## **CHANGES IN THE STATE ATMOSPHERIC AIR IN THE TERRITORY OF THE GOMEL REGION UNDER THE INFLUENCE OF STATIONARY SOURCES OF POLLUTION**

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Atmospheric air is the most important component of the natural environment, providing life and having unlimited capacity, tremendous mobility, chemical activity and ability to penetrate various spheres. The release of pollutants alters the composition of atmospheric air, thereby causing respiratory diseases. The purpose of the work is to study the state of atmospheric air under the influence of stationary sources of pollution, as well as to determine how stationary sources affect the health status of the Gomel region.

**Material and methods.** The material of the study was the state of the atmospheric air of the Gomel region (National Statistical Committee of the Republic of Belarus, 2012–2017). In this work, analytical and descriptive methods were used.

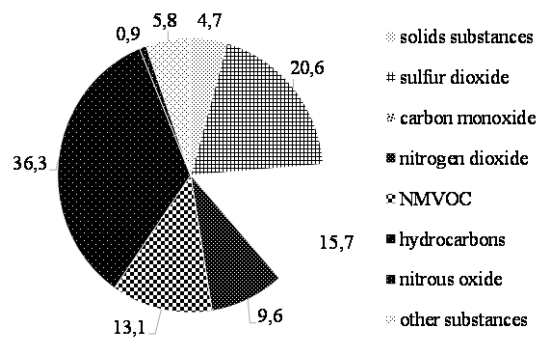
**Findings and their discussion.** In 2017, 203,4 thousand tons of substances polluting atmospheric air were released into the air in the Gomel Region. The share of pollutants emitted from stationary sources of pollution is 105,6 thousand tons, which is 9,7% more than in 2012 (95,4 thousand tons). On average, per inhabitant of the Gomel region accounts for 74 kg of pollutants. There is a trend towards an increase in pollutants per 1 km<sup>2</sup> of the territory. Thus, since 2015, there is an increase in pollutants by 1-5,7% (Table 1).

**Table – Amount of pollutants from stationary sources of pollution**

Year	Total, thousand tons	From stationary sources, thousand tons	Per inhabitant, kg	Per 1 km <sup>2</sup> of territory, kg
2012	222,1	95,4	67	2363
2013	225,9	102,7	72	2543
2014	215,3	101,6	71	2512
2015	205,3	99,9	72	2467
2016	207,7	104,6	74	2591
2017	203,4	105,6	74	2617

The main stationary sources of air pollution: woodworking, pulp and paper, chemical, petroleum industry, enterprises for the production of mineral fertilizers, heat and power, engineering and machine-tool construction, enterprises of the forest, electrical industry, which account for more than 51% of all pollutants [1].

The structure of emissions from stationary sources is dominated by (more than 33%) hydrocarbons, in second place is sulfur dioxide (19%), and the third (more than 15%) is carbon monoxide. Then follow NMVOC, nitrogen dioxide, solids, other substances and nitrous oxide (Figure 1).



**Figure 1 - Composition of pollutants (%) entering the air from stationary sources**

Over the past 5 years, 1341,7 thousand tons of pollutants were caught and neutralized on the territory of the Gomel region. In 2017, significantly less pollutants were captured and neutralized, compared to 2012 – 223,2 thousand tons and 218,4 thousand tons (Table 2).

**Table 2 – Number of stationary sources**

Year	Total, in units	Organized sources, in units	With sewage treatment plants, in units	Caught and neutralized, thousand tons
2012	20966	18100	2836	230,4
2013	19962	16880	2781	218,4
2014	18548	15818	2941	230,5
2015	19673	16269	2667	211,4
2016	21457	17463	2670	227,8
2017	22812	18521	2766	223,2

During the same period, the amount of pollutants used was determined. Out of 1341,7 thousand tons, 658,4 thousand tons were used (more than 49%). In 2017, 97,3 thousand tons of pollutants were used. This figure is much lower (more than 18%) than in 2012, where they used 119,2 thousand tons of air pollutants.

Since 2013, the number of stationary sources of pollution has increased rapidly (by 1127–1784 units). At present, there are 22812 stationary sources on the territory of the Gomel region, of which 18521 are organized and 2766 are equipped with sewage treatment plants (Table 2).

**Conclusion.** The level of total air pollution in 2017 is estimated as “moderate” (III degree of pollution), on certain days with the appropriate wind direction to the observation station – as “strong” (IV degree pollution). We have attempted to establish a relationship between the quality of atmospheric air and the incidence of respiratory diseases. The findings are ambiguous. It was found that, against the background of moderate air pollution in the Gomel region, there is an increase in the incidence of respiratory diseases among the adult population: from 33,0 to 33,9% (for 2016-2017) and a decrease among the child population: from 75,5% to 73,3% [2–3].

Reference list:

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