

The plant consists of 10 main and 10 auxiliary production units and services. The plant of molding and normals is the specialized enterprise for release of forage harvesting equipment for fodder production and animal husbandry.

The plant produces:

Reaper GSC-6, pick-up PPK-6 ,Reaper herbal KIS 02 ,KIS the pick-up-09 ,Reaper corn KIS-06 ,rotary corn harvester PKK-02 ,pick-up the PAC-035 ,Reaper herbal KPT-046 ,Reaper herbal GAC-04 ,pick-up PTF-2.2-01 ,Reaper, ICE-3,0 ,Reaper zht-f-4,2 ,pick-up PTF-2.2 ,spare parts for all manufactured products, consumer goods.

Analysis of gas cleaning equipment revealed that the company has:

64 no. 23 cyclone, wet dust collectors 29, no. 3 "aviation industry". Most of the cyclones are manufactured by the plant. Currently, 135 emission sources are equipped with dust and gas cleaning systems. A total of 119 dust and gas treatment plants are involved.

Environmental activities in the organization include the following areas:

– implementation of integrated management of environmental safety of the organization and rational use of natural resources;

– planning and organization of works on environmental protection;

– compliance with environmental requirements in the implementation of production activities;

– protection of atmospheric air, water basin;

– waste and plant management;

– development of measures for the implementation of effective resource-saving, low-waste and non-waste, safe technologies and equipment.

In accordance with the "Act of inventory of emissions of pollutants into the air" at present, 488 sources of emissions of pollutants into the air, including: – organized – 484 sources; – unorganized – 4 sources, are operating at the industrial sites of the open joint stock company "Gomel plant of casting and normals".

At the same time, 65 pollutants are emitted into the air from the existing production facilities. Currently, the industrial sites of the plant is installed and operated 151 gas-cleaning installation.

In addition, 34 grinding machines are equipped with individual dust-gas-collecting units ZIL-900M with an efficiency of cleaning polluted air from dust 99.3%.

In 2017, 25 welding stations are equipped with filters FMKS m / K 1600-OP with the effect of cleaning polluted air from dust 99.9%.

Analysis of water consumption and water disposal showed: the total amount of sewage – 1866 m³/day, including; household – 733,3 m³/day; production 1133,3 m³/day of clean – 1109,0 m³/day; storm – 913,7 m³/day.

Water recycling systems are used in the organization for cooling process equipment, as well as to save fresh water.

The company has 85 types of waste: 1 hazard class: 6 types of waste; 3 hazard classes: 33 types of waste; 4 hazard classes: 25 types of waste; non-hazardous: 21 types of waste;

Storage of production waste in the territory of the organization is carried out only in the authorized places of collecting and temporary storage of waste according to the developed "maps-schemes of places of temporary storage of waste" in the volumes established in YN 568-093.

Accumulation and storage of production waste in the territory of the organization is allowed temporarily:

– when accumulating up to the amount required for transportation by one transport unit;

– in the temporary absence of landfills;

– before determining the hazard class of waste;

– until the issue of disposal or use is resolved.

THE USE OF VOXEL PHANTOMS IN NUCLEAR MEDICINE

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This article is about the prospect of using voxel phantoms in nuclear medicine. And also about the development of new types of phantoms.

Keywords: nuclear medicine, voxel phantom, the Monte Carlo method.

Numerical modeling of human anatomy is one of the most rapidly developing areas in applications of nuclear medicine and medical physics. The main modeling tool is the Monte Carlo method. Obviously, in solving problems of radionuclide and radiology diagnostics and therapy, high-quality dosimetric support is required. However, providing this support is usually difficult in at least three aspects: (1) there are a large number of different exposure scenarios; (2) during irradiation, several types of radiation can be used that interact with the substance in different ways, for example photons (and electrons), electrons, positrons, alpha particles, neutrons and protons; (3) The human body consists of three-dimensional heterogeneous tissues and organs of various shapes and densities, which leads to an extremely complex pattern of formation of both a therapeutic dose and a dose in healthy organs and tissues. The possibilities of direct dose measurement are extremely limited, since the placement and use of detectors inside the human body is associated with a number of obvious difficulties.

Currently, the world's widely used numerical phantoms of the human body in conjunction with the transport codes that implement the Monte Carlo method. When using these phantoms, the accuracy of dose assessment in deep-seated organs depends on the quality of the modeling of the composition and the material composition of the tissues of the human body. In this regard, it is voxel phantoms that are the most accurate models of both individual organs and tissues, and the body as a whole. A voxel phantom is a model of the human body, assembled from small parallelepipeds - voxels. The basis for constructing a voxel phantom is a set of tomographic images of a particular person. The description of the voxel phantom in the language of the input file of the dose calculation program is, in fact, the "materialization" of this phantom, which is available for visualization and use in the calculations.

So, since voxel phantoms are the most accurate models of the human body, the creation of voxel phantoms and their use in radiotherapy and dosimetry is an important scientific and technical problem.

THE SURVIVAL RATE OF MARBLE CRAYFISH – A POTENTIAL INVASIVE SPECIES

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Marble crayfish is an invasive species having a large potential for colonization of Belarusian reservoirs. The article explains its possibilities to survive in Belarusian climate conditions.

Keywords: invasive, crayfish, temperature, surviving.



Fig. 1. Countries where marble crayfish has been found in the wild