

ACCESSORIES AND FUEL

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Peat deposits are natural biological systems that are in a stage of continuous growth. Each year in the world almost 3 billion tons of peat are formed, which is about 120 more products.

Peat in the native state is a rather complicated object of energy use and requires the development of technology for additional processing. Due to the fact that in peat, high ash content and lower caloric content, it reduces its energy value. Creating compositions with different types of biomass will reduce ash content and increase caloric content.

In the complex processing of peat into fuel with the extraction of humic substances it is possible to obtain organic fertilizers of high quality and from waste fuels.

An important source of humic substances is peat. Basically, peat is used for fuel and local fertilizers. If you remove humic substances from it and burn the rest, then this unique natural resource can be used more rationally. The main method of obtaining humic substances - is an alkaline reaction with solutions of ammonia or potassium hydroxide or sodium. Such treatment converts them into water-soluble salts - gumat potassium or sodium with high biological activity. The composition of the functional groups and the structure of the molecular fragments of humic acids depends on the method of their obtaining.

Classical technology for the extraction of humic substances using chemical methods is based on the high temperature of the mixture, which requires high energy consumption. We propose the use instead of traditional hydromechanical devices, pulsed devices of discrete pulsed energy input (DPVI).

The efficiency of extracting the humic component from the developed technology in the pulsating apparatus of the cavitation type was investigated. The amount of humic substances is 1.4 times more than the control sample. Also, according to the developed technology, extraction from dry and milling peat occurs with the same amount of removal of humic substances, so it is inappropriate to further dry the peat before extraction. The extraction is carried out in a cavitation type apparatus with the same intensity for 20 minutes, 40 minutes. and 60 min Based on these studies, extraction was carried out in pulsating apparatus for DPVI for 20 minutes. The treatment is carried out rather quickly. After that, the resulting mixture is sent for further extraction into a capacitive type apparatus, where the mixture is heated and maintained, and then the liquid solution is separated off with humic substances, and the precipitate remaining after extraction, will be used for the production of environmental fuels. Subsequently, liquid fertilizer (a solution of humic substances) is fed to a liquid fertilizer line.