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ORGANIC BIOMASS – ALTERNATIVE ENERGY SOURCE

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The necessity to reduce the cost of energy is one of the most pressing issues and problems facing humanity today. Ukraine is an agricultural country, so the organic biomass in the future can be a powerful, inexhaustible source of energy for its needs. The main types of organic materials, which have the country, are: sunflower husks, buckwheat, corn, wood chips, low-grade coal screenings and more.

A group of researchers the Department of Theoretical Mechanics and resource saving technologies of the National University of Food Technologies considers that today the issue problem getting alternative energy is inextricably linked with the development of technologies which are based on the using as an energy source the organic biomass and organic waste from food production. We think that promising technology in this direction is the technology for obtaining synthesis gas by thermal conversion of organic materials.

In general gasifier is the equipment for thermal processing of solid organic materials in combustible gases that implement during shortage of blowing agent (air, oxygen, water vapor, etc.). Combustion of solid fuel in the reactor of gasifier is carried out in a volume of vertical layer is characterized by raw feeding blowing agent, which is insufficient for complete combustion. Gases is formed in gas generator contain complete fuel combustion products (carbon dioxide, water) and products of their recovery, incomplete combustion (carbon monoxide, hydrogen, methane, carbon, etc.). The process that occurs in the gas generator called the gasification of organic materials.

A group of researchers of the National University of Food Technologies in Kyiv in cooperation with experts of LLC "Luhanshyproshaht" in Lugansk and "Dyzelbudivnym Plant of Kirov" Tokmak, did the work on the elaboration of highly complex gas generation that decides such tasks: continuous provision of electricity and heat for industrial projects; supply houses or private buildings, obtaining raw materials for the synthesis of chemicals, recycling organic waste, improving the environmental situation in different regions and so on.

KEY WORDS: organic biomass, gasifier, synthesis gas