production of polymeric materials was one of the main engines of technical progress in the second half of the past century. Percentage of polymeric wastes constantly grows and nowadays reaches 8-12%. That is why a problem of their recycling is an important issue of the day, indeed polymers decompose in nature for 80-100 years that considerably contaminates the environment.

One of the factors of solving the problem can be the use of biological materials and technologies. For this reason development of polymers of biological origin, which decompose in the environment in a biological way, has started, thus, diminishing the polymers' negative influence on the environment.

In this respect it is interesting to use a representative of the class of Polyoxyalkanoates – ***polyhydroxybutyrate*** (PHB). It is the product of biochemical fermentative synthesis of some types of bacteria in different environments. Polyhydroxybutirate has a number of unique properties, namely: non-toxicity, biocompatibility with living tissues of organisms, absence of side production.

These advantages of PHB are very important. For example, polyhydroxybutirate can be used for the production of the most widespread plastic goods, disposable tableware, packing, medical instruments, etc.

The scientists have managed to get 60 cultures of Pseudomonas from aerobic active silt of the aeration station (village Bortychi), it will help to increase biosynthesis of polyhydroxybutirates. Technical scheme for industrial production was developed for half-products of polymer materials on the basis of biomass of culture Pseudomonas.

The use of biopolymers will become the first step in improving the ecological situation in Ukraine. For this reason, the development of the scientific bases and technologies of producing polyhydroxybutirate is urgent for our state.