

Resource conservation in BIOCONVERSION ORHANICHNOYISYROVYNY

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The analysis resource in the bioconversion of organic material. Established resource-total effect of the introduction of technological measures bioconversion of organic materials based on qualitative and quantitative results that ensure positive results from measures bioconversion. Developed block diagram types and areas of resource conservation at composting solid organic waste.

Resource, organic materials, bioconversion, resource-saving effect of solid organic waste.

Formulation of the problem. Bioconversion of organic waste feedstock crop and livestock agriculture is the basis of resource conservation - one of the uses of natural resources, which saves natural resources and increase production through existing materiel and financial resources of specialized branches of agricultural production. Therefore, they need a system analysis that helps scientists and managers farms raise efficiency measures.

Analysis of recent research. Analysis of the literature on the issue of resource allowed to highlight important features that are considered experts in economics [1-3]: species resources stored; content processes; the feasibility of measures; life cycle resource and production funding and resource results.

A special group of inputs. Among the resources stored materialozberezheniya [4], energy [5, 6] trudozberezheniya [7, 8], fondozberezheniya [9, 10] hruntozberezheniya [11-14], water conservation [15].

Bioconversion processes ensure high social and environmental impact, which lies in the reduction of greenhouse gases and odors, preventing sanitary measures and so on. Each of departments bioconversion sees the advantages and techniques relies on its economic effects of the introduction of bioconversion

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technology and engineering solutions to ensure their implementation. So in agronomy consider reducing the rates of application of organic fertilizer - compost, which was prepared for rapid composting technology,

improving the chemical composition substraktu and renovation of humus soil, reducing the fate of fertilizer.

At the same time obtain some products that have market value, biogas, solid and liquid organic fertilizer.

The purpose of research. Summarize the results in resource bioconversion technologies of mechanized recycling animal manure and crop.

Research results. Total resource-effect of the introduction of technological measures bioconversion of organic raw materials:

$$P = \sum_{i=1}^n P_T,$$

where: P_T - qualitative and quantitative results provide positive results from measures bioconversion.

Determine the value of P_T hryvnia may in general:

$$P_T = \sum_i P_{\varepsilon} + \sum P_{\text{em}} + \sum P_P + \sum P_i + \sum T,$$

where: P_{ε} - Socio-economic impact of the introduction of biotechnology;

P_{em} - Veterinary effect of the introduction of biotechnology;

P_P - The effect of saving resources, materials, water, energy, funds, labor costs; P_i - The effect of other organizational measures; T - The cost of the resulting product (goods) - solid and liquid organic fertilizers and biogas.

Obviously, the components are directly applicable and they really count - P_P, T And others - indirect - $P_{\varepsilon}, P_{\text{em}}, P_i$ Which require subjective evaluation of the resulting effect. On the other hand, ensuring the positive effect of the introduction of biotechnology resource - a costly mechanism:

$$3 = \sum 3_{\text{kan}} + \sum 3_{\text{ekc}} + \sum 3_{\text{zam}} + \sum 3_{\text{3o}} + \sum 3_i;$$

where: $\sum Z_{\text{kap}}$ - capital expenditures for facilities and equipment; $\sum Z_{\text{eks}}$ - operating costs in the economy, logistics; $\sum Z_{\text{zat}}$ - Costs of materials; $\sum LPZ$ - the cost of storing and selling finished products; $\sum$ of in - on other expenses.

In fact, the total resource-effect:

$$P = \sum_{i=1}^n P_T - \sum_{i=1}^n 3$$

The structure of the positive benefits of biotechnology on the introduction and implementation costs and ensure efficiency measures as a deep objective assessment of composite structures - the choice of rational technology of bioconversion processing conditions in a particular sector.

Block diagram types and directions of resource saving technologies of mechanized composting solid organic waste in Fig. 1 in general shows the information that should be use to draw conclusions about the technological and economic feasibility and validity of bioconversion technology is that it actually resursozberezhlyva.

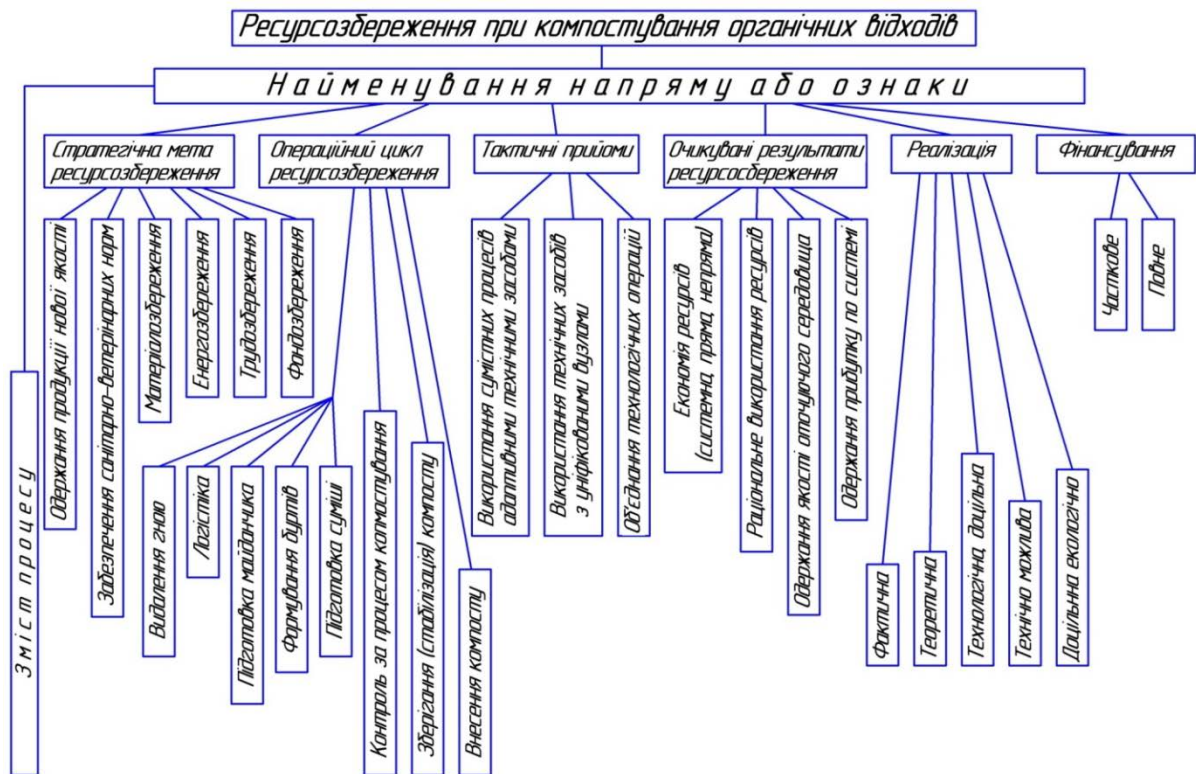


Fig. 1. Block diagram types and areas of resource conservation at composting solid organic waste.

For specialists in mechanization of agriculture bioconversion processes - SANITIZATION of measures on animal manure and crop by biologically active microorganisms, bacteria, fungi, etc., for the performance of which is necessary to make the appropriate conditions based machines, equipment.

Basic requirements for the provision of health and biotechnology, environmental standards and control processes. In bioconversion treatment will always be a question between qualitative surroundings finances or how to spend it. Promising development plans considered increasing the number of institutions and biogas production. The program can be implemented if the state will develop rules to promote development. This preference pay tariffs of energy produced. Once these issues are considered in Western Europe, America and China.

Determining who wish to obtain technological resources - is the main strategic goal, which further provides a choice of tactical directions. There are many: chemical, biological, technical and other.

On the other hand a search for internal resource efficient solutions based on analysis of the technological process of machine production and the level of individual enterprises or direction. In this case, can be used under or upgrade existing machines.

A small amount of electric power at one and bioustanovok Sunday funds from the sale - to 1500-2000 UAH., Which does not provide cover salaries of personnel served. But health and environmental issues are largely absent. At the same time, significant issues to the storage and utilization of different stages.

Most biogas facilities that are built by favorable financing conditions and further or no alternative solution to the need for social and environmental standards. The main issues of storage and disposal of waste substrates to increase exports of organic products. Domestic prices for organic fertilizers in Ukraine were also increased prices to 400-600 UAH / t after a sharp zdorozhennya fertilizers. Research conducted at UMT m. Zaporizhzhya obtained that the chemical composition of 1 ton of quality compost from manure equivalent to 100 kg of broiler nitroamofost.

Biogas is used directly in gas networks or convertible form, serves as fuel for internal combustion engines, leading generator of electric current and the energy generated in the electric network.

Internal economic calculations in a real company determine what resources are saved, materials, funds, agricultural land. For example, reducing the number of purchases of fertilizers, improving soil fertility.

At the same time, reduced emissions and ammonia odors - is the basis of improving the conditions of the environment as a result of livestock farms.

Market products processing. Solid organic fertilizer - compost most realizuyemi that zorhanizuyetsya (moved, packed, stored).

Conclusion. The analysis resource in the bioconversion of organic material. Established resource-total effect of the introduction of technological measures bioconversion of organic materials based on qualitative and quantitative results that ensure positive results from measures bioconversion. Developed block diagram types and areas of resource conservation at composting solid organic waste.

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Resursosberezhenyya analysis conducted in byokonversyy of organic raw materials. Summarnyy established resource-saving effect from tehnohycheskyh meropryyatyy byokonversyy Introduction of organic raw materials based kachestvennyh and quantitative results, obespechyvayuschyh polozhytelnye results from meropryyatyy byokonversyy. Is designed flowchart species and is aimed at resursosberezhenyya Organic kompostyrovanyy of solid waste.

Resursosberezhenyya, orhanycheskoe raw materials, byokonversyya, resource-saving effect, tverdye orhanycheskye waste.

The analysis of resource in bioconversion of organic raw materials. It established a total resource saving effect of introduction of technological measures bioconversion of organic material on the basis of qualitative and quantitative results, ensuring positive results from measures bioconversion. The block diagram of resource types and directions when composting solid organic waste.

Resource conservation, organic materials, bioconversion, resource-saving effect, solid organic waste.

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**DVOYEMNISNA MODEL humus
Soil environment agroecosystems**

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The results of modeling humus soil based on flows and stocks of carbon in soil humus and organic carbon nehumusnoyi nature - organic residues and organic fertilizers.

Humus, carbon productivity, the model dynamics.

Formulation of the problem. Agro-ecosystems should be governed by man. Any increase productivity of agro-ecosystems requires increasing energy costs, including human. They go on to maintain energy potential agro-ecosystems or change the conditions for its implementation.

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The value of the flow of human energy depends on the goal that puts producer of agricultural products, mainly to maximize revenue by reducing the energy intensity of production. This is achieved or reduction of energy consumption at a fixed level of performance or rapid productivity growth to increase energy. The first problem is solved by rational organization of labor and production, replacing energy-intensive operations more energy efficient, second - increasing levels of system performance[1]. The latter is defined bioclimatic potential, soil fertility, socio-economic conditions.

Easy and effective measure of increasing productivity agro-ecosystems is the humus content in the soil [2]. If the functioning of agro-ecosystems humus content increases, then we can talk about increasing levels of system performance. If the humus content in the functioning of agro-ecosystems is not changed, the system does not change their performance levels, and if the humus content decreases, the system operates with reduced levels of performance.