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ORGANIC FERTILIZER MANUFACTURING FOR GROWING OF ENVIRONMENTALLY FRIENDLY FOODS

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Nowadays, environmental problems have become one of the most important issues worldwide. Ecological cleanliness especially in regard of food, is becoming the most crucial task. Organic food has lots of benefits, ranging from eating more nutritious food to soil preservation.

As a result of agricultural enterprises activity there is a large quantity of unused organic wastes worldwide. They are a source of environment contamination and cause accumulation of biogenic elements. Therefore for increasing agricultural production effectiveness it is necessary to develop technologies which would maximally involve secondary recourses. It promotes their utilization and expansion of the resource base for the production of organic fertilizers.

Recycling of organic wastes into production of fertilizers on their basis involves their drying and granulation. Most of the substances in granular form have better physical and chemical properties – their density, hardness, flowability are much better. It is easier to transport such products and they can be used in various processes. There is developed a large number of devices for granulating mineral fertilizers. But drying and granulation of organic substances has its own peculiarities, which include: possible burning and decomposition at high temperatures, increased ability to stick together and a tendency to lump formation.

Mostly organic wastes are highly humid suspensions; therefore the optimal technology of their processing into the granular product is their dehydration in a fluidized bed.

Insufficient knowledge of complex and diverse processes in a suspended layer hinders the development and implementation of the fluidized bed apparatus in many industries. Implementation of the project results will help to design multifunctional apparatus which combine the processes of granules formation, their separation and classification within the volume of one device. It will help to increase energetic and environmental efficiency of dispersion and granulation processes of organic suspensions by using active hydrodynamic regimes.

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