



Pilot Testing Program on the Application of Bio-Organic EcoSystem Treatment Plus Catalyst Residues APH

Moscow, Russia

The purpose of the tests: testing the effectiveness of Bio-Organic Catalyst, EcoSystems Plus (ESP) organic production company Catalyst. Inc. United States to combat the smells from the rotting, and speed up the composting plant APH (Moscow).

Type of waste: residues of growing lettuce and arugula.

The amount of waste: the tests shall be carried out in two tanks with 25 kg of vegetable waste in each cavity (with total weight capacity). Capacity at number no. 2 primarily processed by ESP. Tank No. 3-control-without processing. The amount of waste in the 2's tanks is identical to ((H= 45 cm from the top edge of the container to waste) The period of testing: 30.03.2015-10.05.2015.

Description of EcoSystems Plus

EcoSystem Plus is a unique ecosystem bio-catalytic preparation, designed to increase the amount of dissolved oxygen in wastewater, as well as the destruction of essential relationships of organic waste.

EcoSystems Plus improves the speed of biological redox processes on sewage treatment plants, increases the depth of sewage treatment and significantly reduces the smell of hydrogen sulfide in the air in the placement of waste treatment plants and organic waste skdadiroapniâ spots.

EcoSystems Plus improves the yield of methane in anaerobic mineralization of organic waste of plant and animal origin, as well as the quality of the biošlamov due to energy bio-catalytic destruction of molecular bonds.

EcoSystems Plus does not contain bacteria or enzymes are active, but stimulates the vitality of natural (native) microorganisms due to significant improvement in the presence of oxygen transmission and simultaneously and release of nutrients in sewage and organic waste for their consumption of micro-organisms.

Specification of EcoSystems Plus

EcoSystems Plus is not toxic, not corrosive alkali and not a drug, it is safe to use. The recommended shelf life of 2 years.

Ingredients: water, bio-organic catalyst with high purification, made of vegetable and mineral constituents of biologically-active substances, surface emul'gaty, organic stabilizer.

Attention: keep away from the reach of children. If the concentrate from the package got into the eyes, rinse thoroughly with water.

When applied to follow the recommendations set out in the safety data sheet of the drug.

Program Testing

For the testing of composting plant residues, we recommend that you use composters that can be made to either buy ready-made. Komposterami are: the compost pit or compost pile, a wooden box. (Recommended compostable waste lay in the compost layer no more than 15 cm. Too thick layer of waste composting process slows down and reduces oxygen in the layer of the material.).

For the testing of plant residue product product ESP we advise you to mix in 50 times the water temperature of 20-25 on the immediately before use and irrigate the surface material in a composter abundant spray aerosol with stirring to saturate the material with oxygen. The ESP will determine the rate of flow of water for the irrigation of the aerosol kompostiruemogo material and it is recommended to calculate the conditions of humidity maintenance material at the level of 50-60%.

Kompostiruemogo material handling diluted solution of ESP (1: 50 dilution) should be 4-6 times per cycle of composting with agitation to ensure an adequate supply of oxygen and moisture in the layer of plant residues.

Volume no. 2

An initial processing of r Dr. SEPP (100 ml ESP dissolved in 5 l of water).

The processing carried out by irrigation.

The frequency of handling and measurement are indicated in the table. The odour detection by Visual inspection capacity no. 2 it is recommended to irrigate r-rum ESP specified concentration.

| | Date Processing and Measurements | | | |
|--|----------------------------------|--|--|--|
| | 30.03.2015 | 06.04.2015 | 15.04.2015 | 22.04.2015 |
| The presence of odor. | The smell of fresh greens. | In the primary inspection, the smell was rot. | When mixing the strong smell of hydrogen sulphide. | When mixing the strong smell of hydrogen sulphide. |
| Mass of the liquid with a strong odor of hydrogen sulfide. | Waste of Fresh Greens. | Yellow Greens, has settled, after the mixing has strong smell of rot. After a while the smell disappeared. | Visual inspection Mass of the liquid with a strong odor of hydrogen sulfide. After processing the rrum ESP smell is completely gone. | After processing the r-rum ESP smell is completely gone. |
| The concentration of r-RA ESP. | 100 ml ESP in 5 l of water. | 20 ml ESP in 1 l of water. | 20 ml ESP in 1 l of water (use no more than 200 ml spray. | 20 ml ESP in 1 l of water (use no more than 200 ml of solution for spraying. |
| Depth (H) from the edge of the container to compost. | H= 45 cm | N = 66 cm | Volume measurement was carried out. | Waste from the containers have been placed in the filter material (gauze) and left for 24 hours to determine the dry remains. After weighing the dry residue weighed 6.5 kg. 7.3 liter volume. |

Tank No. 3

The control. Not processed by ASP.

| | The Measurement Date | | | |
|--------------------------------|-----------------------------|---|--|---|
| | 30.03.2015 | 06.04.2015 | 15.04.2015 | 22.04.2015 |
| The presence of odor. | The smell of fresh greens. | In the primary inspection, the smell was rot. | When mixing the strong smell of hydrogen sulphide. | When mixing the strong smell of hydrogen sulphide. |
| Visual inspection. | Waste of fresh greens. | Yellow greens, has settled, after the mixing has strong smell of rot. | Mass of the liquid with a strong odor of hydrogen sulfide. | Mass of the liquid with a strong odor of hydrogen sulfide. |
| The concentration of r-RA ESP. | 100 ml ESP in 5 l of water. | 20 ml ESP in 1 l of water. | 20 ml ESP in 1 l of water (use no more than 200 ml spray). | 20 ml ESP in 1 l of water (use no more than 200 ml of solution for spraying). |

Conclusion:

1. After the experiment the reagent EcoSystems Plus effectively eliminates all odors rotting and hydrogen sulfide. From No. 3, not treated with ESP, throughout the period of the experiment on the fetid smell of hydrogen sulphide. In the processing capacity of the No. 2 POWER WINDOW smell instantly disappear. Thus, reagent ESP performs its main function is to combat odors.
2. When comparing the weight and volume of solids in bulk of no. 2 and no. 3 (all and close in value), it can be concluded that the effect of ESP to accelerate composting and to reduce the weight and volume of the waste is not seen.

Recommendations:

Use reagent Ëkosistemplûs for regular (1 -2 times a week) treatment of waste pits in APH (Moscow). Kompostiruemogo material handling should be diluted solution of ESP (1: 50 dilution) method of irrigation.