

No need for microorganisms, room temperature, significant reduction in waste disposal costs, low running costs

α-Gaia Active Oxygen decomposition system

Active oxygen are the strongest substances on earth with the highest oxidizing capacity. For example, when a person breathes, active oxygen sterilize and decompose bacteria and viruses by their instantaneous oxidative action so that they do not invade the body. However, it disappears in an instant. If kept for a long time or generated more than necessary, it has such a high oxidizing effect that it destroys the brain and body cells and can annihilate all life on the earth. Until now, there has been no way in the world to effectively utilize this active oxygen.

WEF Technology Development Co., Ltd. of Japan invented the world's first technology for generating large amounts of active oxygen in the atmosphere and developed a compact generator. In April 2022, Mr. Aoyama, President of WEF was awarded the Order of the Sacred Treasure by the Japanese government in honor of his achievements.

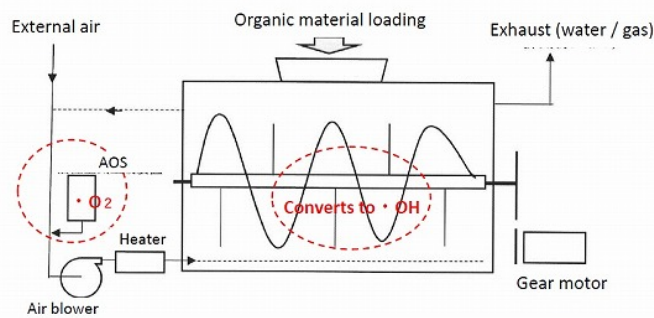
Organic matter is generally composed of carbon, hydrogen, and oxygen atoms that are very tightly bound together, making it difficult to decompose even with strong acids and alkalis, high temperatures, and high pressure. Active oxygen can instantly decompose the strong atomic bonds of organic matter. The active oxygen generator "AOS," invented by WEF, generates a large amount of active oxygen in the atmosphere, making it possible to decompose organic matter.

α-Gaia" active oxygen decomposition system that can dry and reduce the volume of waste materials such as vegetable residue and excess sludge at room temperature, and can perform pretreatment for compost fermentation/methane fermentation, sterilization and decomposition of bacteria/viruses. When active oxygen is generated, organic matter is brought into contact with and decomposed by an agitator, cell walls are instantly decomposed, and the water is evaporated to a powder.

Generates active oxygen by AOS



Applies active oxygen to organic material and decomposes it while stirring



Sludge



Food residues



Food scraps



α-Gaia-100



α-Gaia-2000



Major features of Alpha Gaia

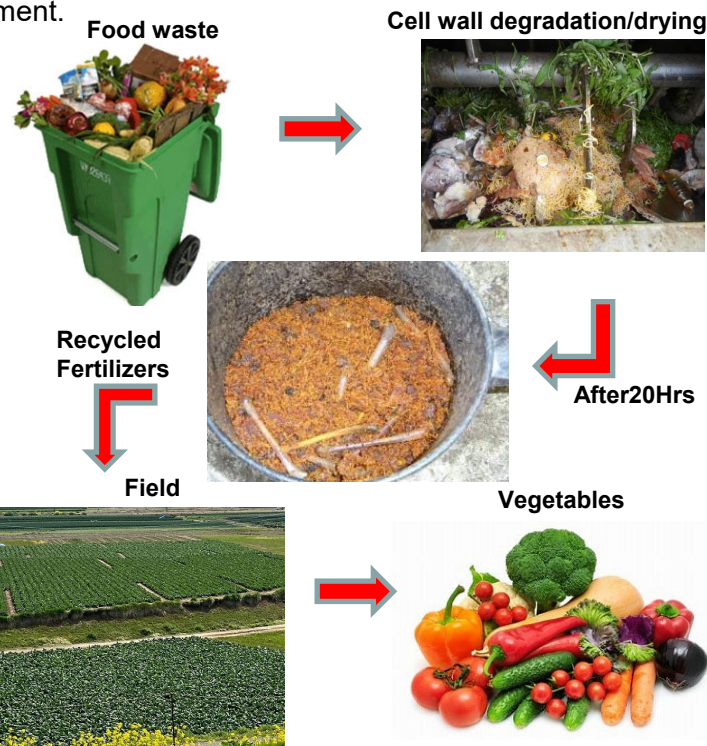
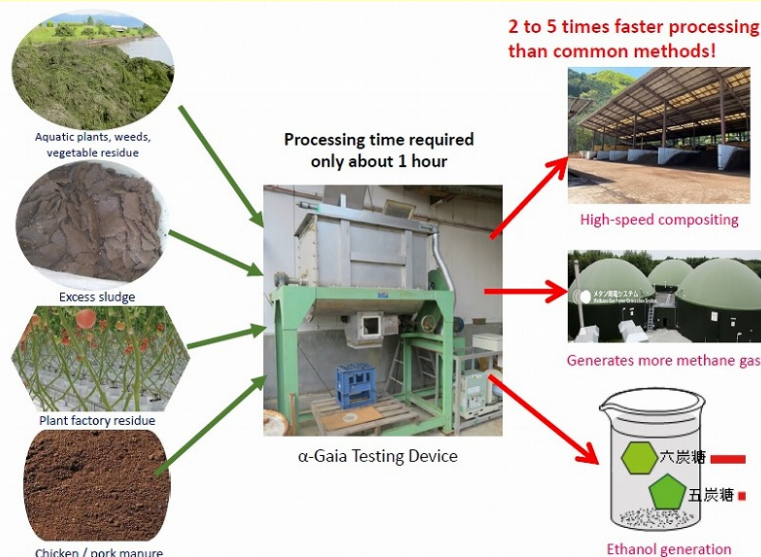
1. The world's only equipment capable of decomposing organic matter with active oxygen
2. The stirring function mixes with active oxygen and brings them into good contact, enabling instantaneous decomposition of cell walls that could not be decomposed by strong acids, alkalis, high temperatures, high pressure, etc.
3. Active oxygen air can dry organic materials at room temperature in a short time
4. Active oxygen has a high bactericidal effect, decomposing all fungi attached to organic matter, resulting in zero bacteria.
5. Active oxygen has 1.3 times the oxidizing power of ozone, and the processing speed is 2 to 5 times faster.
6. Alpha-Gaia does not require water supply/wastewater facilities, so the equipment and work are very easy, and the running cost is very low.
7. Stable decomposition treatment of animal residues and oily residues, etc. with active oxygen.
8. Vegetable residues, plant factory residues, weeds, waterweeds, excess sludge, chicken manure, pig manure, etc. can be fermented and powdered 2 to 5 times faster than conventional processes after only 1 hour of pretreatment with active oxygen

Example of alpha-Gaia applications

1. Excess sludge treatment: 70% reduction in weight and moisture content (20. to 30%) in 20 hours after feeding.
2. Food residues
3. Food scraps: No restrictions on input materials like microbial treatment. After 20 hours of treatment, the weight of 53 kg before treatment was reduced to 9.8 kg after treatment.

Recycling of food waste as fertilizer

3. Case Study of α -Gaia: Pretreatment for Fermenting Process (compost / methane / ethanol)



Conversion of Lake Biwa's waterweeds to agricultural fertilizer



Lake Biwa, the largest lake in Japan
Waterweeds have a very high water content (90-95%) and it takes 2 to 3 years to compost them by natural drying, however, α -Gaia can powder them in 10 to 15 hours. Lake Biwa produces nearly 130,000 tons of waterweeds every year, of which 6,000 tons are harvested each year. Currently, WEF is conducting an experiment to dry and powder its Lake Biwa waterweeds after cutting them.

Specification of Alpha-Gaia

Products	α -Gaia-100	α -Gaia-2000
Size mm	W1,710 X D1,240 X H1,460	W5,760 X D2,800 X H3,500
Weight	900Kgs	4,800Kgs
Capacity	100Kgs	2,000Kgs
Process time	Humidification, up to 24 hours, cooling 0.5 to 1 hour	
Power consumption	95.28kw	1,300.8kw



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