CLAIMS

1. A technology and a system with equipment for transforming organic waste to the organic fertilizer using the thermophilic aerobic micro-organisms technology with enzymes catalysis at high-temperature. Organic waste is mixed with a complex microbial enzyme fermentation agent according to the proportion of scientific compatibility, and then fermenting for less than 22 hours with aerating at a controlled heated environment, including a special pasteurization process for 0.5-3 hour.

2. A process as claimed in claim 1, wherein said the organic waste is selected from the group consisting of animal manure waste, food waste, wood waste, agricultural waste, plant waste and city sludge.

3. A process as claimed in claim 1, wherein said the thermophilic aerobic micro-organisms are selected from at least one or more of the following micro-organisms: Clostridium stercorarium sp, Chaetomium thermophilum sp, Geobacillus sp, Actinomadura sp, Thermomonospora sp, Myceliophthora thermophila sp, Phanerochaete chrysosporium , Aspergillus niger , Thermoactinomyces vulgaris sp, Bacillus sp, Streptomyces thermogriseus sp, and Streptomyces cinnamoneus , Photosynthetic bacteria and Nitrobacteria.

4. A process as claimed in claim 1, wherein said the thermophilic enzymes are selected from one or more of following enzymes: Cellulase, Lipase, Pectinase, Protease, trypsin, amylase, Glucanase, Phytase, Hemicellulase, Laccase, Mn Peroxidase and Lignin Peroxidase.

5. A process as claimed in claim 1, wherein said complex fermentation agent is made from thermophilic aerobic micro-organisms in claim 3 and thermophilic enzymes in claim 4.

6. A process as claimed in claim 1, wherein said the proportion of scientific combination includes that moisture of organic waste combination feedstock is 50% to 65% and carbon/nitrogen ratio of organic waste combination feedstock is 20:1 to 28:1.

7. A process as claimed in claim 1, wherein said the high-efficient digester is fully automatic and able to complete the fermentation, pasteurization and aeration processed all in one equipment and is made from one or both of stainless steel 304 and stainless steel 316.

8. A process as claimed in claim 1, wherein said heater is PLC controlled to minimize energy consumption.

9. A fermentation process as claimed in claim 1, wherein said the temperature of the high-efficient digester fermentation process is within the range from 60°C to 80°C.

10. A pasteurization process as claimed in claim 1, wherein said the special pasteurization duration and temperature is 0.5-3 hours at 80°C to 95°C.

CLAIMS

1. A process for transforming organic waste to organic fertilizer using the thermophilic aerobic micro-organisms combined with enzymes catalysis at 60°C -85°C, wherein the organic waste is mixed with the micro-organisms and enzymes and fermented for less than 22 hours with aerating in a controlled heated environment, and wherein the process includes a pasteurization process for 0.5-3 hours.

2. A process as claimed in claim 1, wherein the said organic waste is selected from the group consisting of animal manure waste, food waste, wood waste, agricultural waste, plant waste and city sludge.

3. A process as claimed in claim 1, wherein said the thermophilic aerobic micro-organisms are selected from at least one or more of the following micro-organisms: Clostridium stercorarium sp, Chaetomium thermophilum sp, Geobacillus sp, Actinomadura sp, Thermomonospora sp, Myceliophthora thermophila sp, Phanerochaete chrysosporium , Aspergillus niger , Thermoactinomyces vulgaris sp, Bacillus sp, Streptomyces thermogriseus sp, and Streptomyces cinnamoneus , Photosynthetic bacteria and Nitrobacteria.

4. A process as claimed in claim 1, wherein the said thermophilic enzymes are selected from one or more of following enzymes: Cellulase, Lipase, Pectinase, Protease, trypsin, amylase, Glucanase, Phytase, Hemicellulase, Laccase, Mn Peroxidase and Lignin Peroxidase.

5. A process as claimed in claim 1, wherein said the thermophilic aerobic micro-organisms combined with enzymes catalysis are made from thermophilic aerobic micro-organisms in claim 3 and thermophilic enzymes in claim 4.

6. A process as claimed in claim 1, wherein the said organic waste is used as feedstock with the moisture from 10% to 20% and carbon/nitrogen ratio of feedstock from 20:1 to 28:1.