CLAIMS

1. A method for decomposing a biological material by microorganisms supported on a carrier, characterized in that the carrier is an aqueous polyvinyl alcohol carrier and 20 to 500 parts by weight of the biological material and 5 to 70 parts by weight of water based on 100 parts by weight of the aqueous polyvinyl alcohol carrier are mixed and agitated in a reaction vessel.

2. The method for decomposing a biological material as claimed in Claim 1, wherein an aqueous solution containing a decomposition product is taken out of the reaction vessel.

3. The method for decomposing a biological material as claimed in Claim 2, wherein an aqueous solution containing a decomposition product is continuously taken out of the reaction vessel while water is continuously or intermittently supplied to the reaction vessel.

4. The method for decomposing a biological material as claimed in any of Claims 1 to 3, wherein the microorganisms are bacteria of Bacillus genus.

5. The method for decomposing a biological material as claimed in any of Claims 1 to 4, wherein the biological material is at least one selected from the group consisting of an agricultural waste, a livestock waste, a fishery waste, a food processing waste and a kitchen waste.

6. The method for decomposing a biological material as claimed in any of Claims 1 to 5, wherein 20 to 300 parts by weight of a hard carrier based on 100 parts by weight of the aqueous polyvinyl

alcohol carrier is further added to the reaction vessel and the mixture is then mixed and agitated.

7. A method for producing a liquid fertilizer by decomposing a biological material by microorganisms supported on a carrier, characterized in that the carrier is an aqueous polyvinyl alcohol carrier, and 20 to 500 parts by weight of the biological material and 5 to 70 parts by weight of water based on 100 parts by weight of the aqueous polyvinyl alcohol carrier are mixed and agitated, and an aqueous solution containing a decomposition product is taken out of the reaction vessel.

8. An apparatus for decomposing a biological material by microorganisms supported on a carrier, comprising

a reaction vessel which contains an aqueous polyvinyl alcohol carrier supporting microorganisms;

means for supplying water to the reaction vessel;

means for agitating a biological material in the reaction vessel; and

means for taking an aqueous solution containing a decomposition product out of the reaction vessel.

CLAIMS

1. A method for decomposing a biological material by microorganisms supported on a carrier, characterized in that the carrier is an aqueous polyvinyl alcohol gel carrier containing 70 to 95 weight % of water, and 20 to 500 parts by weight of the biological material and 5 to 70 parts by weight of water based on 100 parts by weight of the aqueous polyvinyl alcohol gel carrier are mixed and agitated in a reaction vessel.

2. The method for decomposing a biological material as claimed in Claim 1, wherein an aqueous solution containing a decomposition product is taken out of the reaction vessel.

3. The method for decomposing a biological material as claimed in Claim 2, wherein an aqueous solution containing a decomposition product is continuously taken out of the reaction vessel while water is continuously or intermittently supplied to the reaction vessel.

4. The method for decomposing a biological material as claimed in any of Claims 1 to 3, wherein the microorganisms are bacteria of Bacillus genus.

5. The method for decomposing a biological material as claimed in any of Claims 1 to 4, wherein the biological material is at least one selected from the group consisting of an agricultural waste, a livestock waste, a fishery waste, a food processing waste and a kitchen waste.

6. The method for decomposing a biological material as claimed in any of Claims 1 to 5, wherein 20 to 300 parts by weight of a hard carrier based on 100 parts by weight of the aqueous polyvinyl alcohol gel carrier is further added to the reaction vessel and the mixture is then mixed and agitated.

7. A method for producing a liquid fertilizer by decomposing a biological material by microorganisms supported on a carrier, characterized in that the carrier is an aqueous

polyvinyl alcohol gel carrier containing 70 to 95 weight % of water, and 20 to 500 parts by weight of the biological material and 5 to 70 parts by weight of water based on 100 parts by weight of the aqueous polyvinyl alcohol gel carrier are mixed and agitated, and an aqueous solution containing a decomposition product is taken out of the reaction vessel.

8. An apparatus for decomposing a biological material by microorganisms supported on a carrier, comprising

a reaction vessel which contains an aqueous polyvinyl alcohol gel carrier supporting microorganisms;

means for supplying water to the reaction vessel;

means for agitating a biological material in the reaction vessel; and

means for taking an aqueous solution containing a decomposition product out of the reaction vessel.