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Señora Jefe de la
DIVISION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-109239-00003-0000

Dep. 2020 NUECREACIONES
Dep. 378 FASENACIONAL
Folios 2

Trámite : 011
Evento : 378
Actuación : 538

Referencia : Expediente No. 06.109.239
Asunto : Solicitud de Patente para **PROCESO PARA SEMBRAR UN MEDIO CON MICROORGANISMOS EN FORMA DE TABLETA**
Solicitante : **DANISCO A/S**
Clase : A23C 009/123, A23C 019/032, C12N 001/020
Publicada en : La Gaceta No. **582** Del 30 de noviembre de 2007
Fecha de Solicitud : 26 de octubre de 2006

1. Yo, Emilio FERRERO, identificado como aparece al pie de mi firma, actuando como apoderado en el asunto de la referencia, atentamente, solicito se efectúe el examen de patentabilidad de la solicitud en referencia presentada de acuerdo con el Capítulo I del PCT y según lo establecido en el artículo 44 de la Decisión 486 de la Comisión de la Comunidad Andina. Para tal efecto presento junto con este escrito el recibo por valor de \$420.000.00, que corresponde a la tasa fijada según lo dispuesto en la resolución No. 44372 de 26 de diciembre de 2007.

2. Ruego atentamente a la Señora Jefe se sirva ordenar que se anexe este recibo para que se efectúe dicho examen y se continúe con el trámite de la solicitud.

Señora Jefe,

EMILIO FERRERO
T.P.A. No. 31.929

COLO-15607-841-001-6
ASG\JGG\ID-123853\WPC15607
No. M-2008-123853\ASG

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 000174089-2

RECIBO OFICIAL DE CAJA : 08 - 24.470
FECHA : MARZO 26 DE 2008

RECIBO OFICIAL DE CAJA
NIT : 000174089-2
MARZO 26 DE 2008
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO DE BOGOTA	062754307	2678157	26/03/2008	23,895,000.00

***** CONCEPTO *****

CANT. HISTORICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	112 PTO CAP-I EXAMEN DE PATENTIBILIDA	420,000.00
	TOTAL :	\$ 420,000.00

SON: CUATROCIENTOS VEINTE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

COLO:15607-841-001-6.

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 06-109239

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **582** DE

FECHA **30 DE NOVIEMBRE DE 2007** EL TÉRMINO HÁBIL SEÑALADO POR LA

LEY EXPIRA EL **27 DE FEBRERO DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO X



US005207899A

United States Patent [19]
Boyle

[11] **Patent Number:** **5,207,899**
[45] **Date of Patent:** **May 4, 1993**

[54] **ROTATING BACTERIAL TABLET DISPENSER FOR AN UNDERGROUND WASTEWATER DENITRIFICATION SYSTEM**

4,756,831 7/1988 Menzel et al. 210/617
4,872,591 10/1989 Konopka 221/15

[76] **Inventor:** Gregory Boyle, 16 Stonebridge Rd., Cherry Hill, N.J. 08003
[21] **Appl. No.:** 833,229
[22] **Filed:** Feb. 10, 1992

Related U.S. Application Data

[62] Division of Ser. No. 661,968, Feb. 28, 1991.
[51] **Int. Cl.⁵** C02F 1/00
[52] **U.S. Cl.** 210/138; 210/170;
210/206; 210/532.2; 210/903; 221/113;
221/121
[58] **Field of Search** 210/170, 198.1, 199,
210/205, 206, 207, 208, 209, 532.2, 539, 903,
138; 221/15, 113, 121, 289, 251

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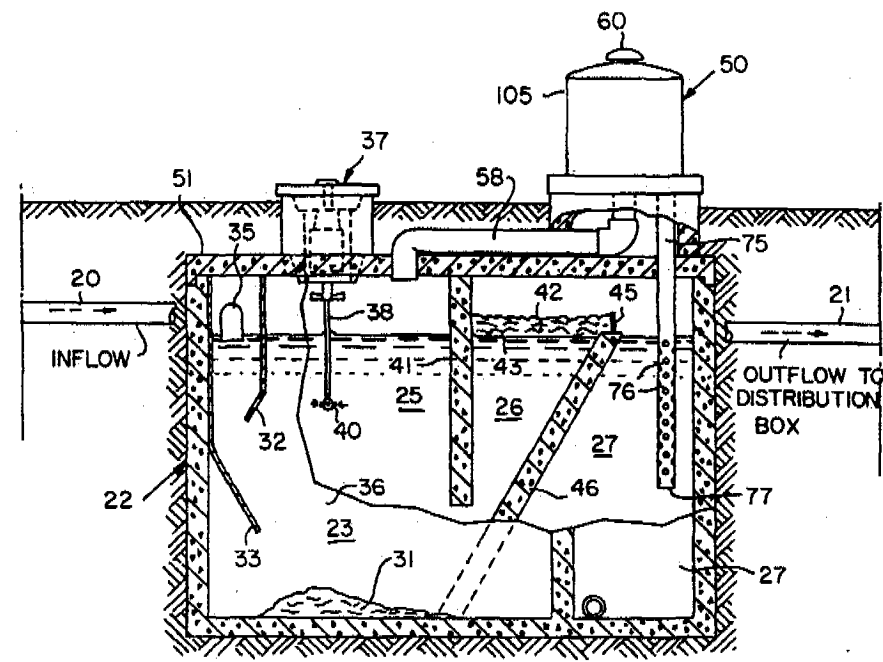
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Primary Examiner—Peter Hruskoci
Assistant Examiner—Robert James Popovics
Attorney, Agent, or Firm—Eugene Chovanes

[57] **ABSTRACT**

Bacteria in tablet form is introduced into a home sewage treatment system. The system uses ground temperature to promote bacteria activity to aid in sewage denitrification. The tablets are periodically dispensed with a power-driven dispenser that periodically drops a tablet below ground into the system.

4 Claims, 3 Drawing Sheets



ROTATING BACTERIAL TABLET DISPENSER FOR AN UNDERGROUND WASTEWATER DENITRIFICATION SYSTEM

This application is a division of application Ser. No. 07/661,968, filed Feb. 28, 1991.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method and device for use in the treatment of wastewater from home wastewater streams or other individual small sources that convert nitrates to nitrogen gas, thus reducing the amount of nitrates introduced into the aquifer to avoid eutrophication and the introduction of levels of nitrate in drinking water detrimental to human health. More specifically, the invention relates to the use of bacteria in tablet form and a dispenser for such tablets for denitrification in a home sewage treatment system.

2. The Process with Which This Method and Device Are Used

The treatment of wastewater from homes in which this method and device are used is disclosed in my co-pending application, Ser. No. 07/532,790 filed Jun. 4, 1990 now abandoned in favor of continuation application Ser. No. 07/809,101 filed Dec. 11, 1991 for SYSTEM FOR THE ON-SITE REMOVAL OF NITRATES FROM WASTEWATER (hereinafter "the said application"), which is incorporated by reference herein. As related therein, while nitrogen is of primary importance in the renovation of sewage, excessive concentrations of nitrogen compounds in groundwater are a public health hazard and also contribute to the eutrophication of surface water. The presence of nitrite (NO_2^-) and, indirectly nitrate (NO_3^-) in drinking water may lead to methemoglobinemia which can impair oxygen transport in the blood, particularly in infants where gastrointestinal upsets can encourage reduction of nitrite to nitrate. The hazards of these materials and their precursors, the nitrosamines, in the soil and aquifer are explained in the said application.

In the said application, the invention disclosed is based upon the novel concept of employing the temperature of the earth and, more specifically, the ground temperature adjacent to the discharge of home or other small wastewater streams to provide the necessary activation temperature for known denitrifying bacteria in a system receiving the effluent from home or commercial wastewater streams.

It is necessary to introduce bacteria on a periodic, especially daily, basis in order to provide excess bacteria, even double or triple the amount normally or hypothetically present in a commercial or municipal reactor or filter. The purpose of providing excess bacteria in this way is to make it possible to accommodate fluctuation in the ammonia content of the wastewater being treated. The ammonia content of such wastewater streams varies geographically and seasonally and, while averaging about 40 mg/l around the country, may range as high as 60 mg/l or more. The bacteria is supplied in tablet form.

SUMMARY OF THE PRESENT INVENTION

The present invention is concerned with a method of and means for automatically providing bacteria in tablet form as set forth above on a periodic, for instance daily, basis. Such bacteria in tablet form are fed into the home

treatment system through an automatic dispenser. The dispenser holds a suitable quantity of tablets, for instance, a two-months' supply. The dispenser operates on a reliable and continuous basis with a minimum of upkeep and maintenance. The dispenser can be cycled to drop, for instance, one tablet a day.

The mechanism comprises essentially loading tubes which are disposed circumferentially on a rotating disk wherein the loading tubes are brought sequentially into alignment with a drop tube. The aligned loading tube and drop tube act in combination wherein a trigger mechanism sequentially permits the release of a single tablet that is then gravity-dropped into the sewage treatment system.

The dispenser can be cycled to dispense or discharge periodically over a wide range of intervals.

The system is preferably electrically driven from house current. However, alternative forms of power generation such as solar or wind can be used to drive the dispensing mechanism.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a residential septic tank showing certain details of construction and the location of the remotely controlled organic pellet dispensing device, all in accord with the invention.

FIG. 2 is a sectional elevational view taken on the line 2,2 of FIG. 1 with parts broken away and in section, showing additional details of the sewage treatment system and the organic pellet dispenser.

FIG. 3 is a greatly enlarged fragmentary sectional elevational view with certain additional parts broken away and in section, showing details of the organic pellet dispenser mechanism.

FIG. 4 is a sectional plan view taken on the line 4,4 of FIG. 3, showing additional details of the dispensing mechanism.

FIG. 5 is an enlarged fragmentary sectional elevational view of the detail contained within the dot-and-dash box shown in FIG. 3 and designated FIG. 5, showing details of the cam-operated, spring-loaded, pellet stack restraining device.

FIG. 6 is a fragmentary sectional plan view taken on the line 6,6 of FIG. 5, showing additional details of construction.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the said application, there is disclosed in great detail the invention wherein there is a system for the treatment of nitrate-containing wastewater from home or commercial—not municipal—sources described, in which the wastewater is contacted underground by denitrifying bacteria introduced to a closed denitrification chamber periodically; the denitrification chamber being maintained at or above the temperature at which the bacteria are active on a year-round basis by the ground temperature.

As seen in an embodiment of the invention shown in the present drawings, domestic sewage from the residence enters for example into the treatment through in-flow pipe 20 and discharges through out-flow pipe 21 to a distribution box.

The preferred treatment plant is a gravity flow-through plant with four compartments:

- 1) primary sedimentation
- 2) aeration
- 3) secondary settling, and

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
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(10) International Publication Number
WO 01/95918 A1

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20001402 13 June 2000 (13.06.2000) FI

(71) Applicant and

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(74) Agent: BORENIUS & CO OY AB; Kansakoulukuja 3, FIN-00100 Helsinki (FI).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ (utility model), DE, DE

(utility model), DK, DK (utility model), DM, DZ, EC, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 01/95918 A1

(54) Title: A PROCESS FOR PRODUCING AND PACKAGING LACTIC ACID BACTERIA TABLETS

(57) Abstract: A process for producing lactic acid bacteria tablets wherein a mass is formed by mixing lactic acid bacteria and carrier, said mass comprising lactic acid bacteria approximately 7×10^9 CFU/g. The tablets are formed from said mass under a pressure that enables a substantial amount of the bacteria to remain viable but makes the tablets hard enough to withstand pressing through the aluminium blister of the package. The tablets are packaged in aluminium blisters directly after the formation of the tablets.

Lactic acid bacteria tablets would, thus, be the most convenient form of lactic acid bacteria containing products since they would have many advantageous properties compared to liquid products. Tablets can easily be stored for rather long periods and transported without damages and no special equipment or conditions are needed. Tablets can be easily administered orally as one dosing unit.

Transporting and packaging requires a certain hardness of the tablets. However, tablets cannot be made very hard since lactic acid bacteria cannot survive the pressure that is needed to form hard tablets. It has been impossible to produce lactic acid bacteria tablets containing large amounts of viable bacteria. In the prior art only tablets containing physiologically insufficient amounts of lactic acid bacteria as one of the active ingredients have been produced.

For producing lactic acid bacteria tablets containing a physiologically sufficient amount of viable bacteria a special new technique is needed since the conventional tableting systems require a higher temperature than the bacteria can survive (max 45 °C) and as well as a high pressure. The combination of high temperature and high pressure results in a low amount of viable bacteria already during the production process.

Packaging of the tablets is also complicated, since the tablets are very sensitive to air humidity. The stability of the tablets can be reduced drastically if in contact with air and humidity. Therefore an aluminium blister is the logical choice for packaging. This, however, demands also a high temperature (190 °C for 1/10 of a second), which might damage the bacteria in the tablet. Further on, if the pressure during tablet forming is low, the tablet is soft and it will disintegrate easily. Thus, it will not be possible to press the tablet through the aluminium blister without breaking the tablet into pieces. This lowers the commercial value of the tablets and is undesirable from the marketing point of view.

Consequently, there is a need for providing a process suitable for the manufacture of lactic acid bacteria tablets having an effective amount of viable bacteria. The present invention aims at satisfying that need. The invention is defined in the appended claims, the disclosure of which is incorporated herein by reference.

Experimentation has showed that about 30 to 70 % of the bacteria will generally be lost in the tableting process according to the invention. The initial mass should contain such an amount of the bacteria that a physiologically sufficient amount remains alive during the production. The mass used according to the present invention comprises 25 – 35 % lactic acid bacteria and the rest carrier, said mass initially containing 6 to 8, preferably about 7×10^9 CFU/g bacteria. Thus, the mass provides a sufficient amount of viable bacteria to the final product without raising the costs too high. The amount of viable bacteria in the product is considerably larger than in the tablets produced by the prior art.

Any lactic acid bacteria can be used in the process according to the invention. In a preferred embodiment the lactic acid bacteria chosen are all aerobic since they are air and oxygen resistant. They stay viable in normal manufacturing and storage conditions.

The carrier used in the present invention can be any conventional carrier used in the tableting, e.g. inulin, sorbitol, cellulose.

Tablets can be produced in various shapes according to the invention. In a preferred embodiment the tablets have a round form, since the temperature of the process is then eliminated more quickly and the temperature is evenly dispersed. This ensures that more bacteria will survive the process than when using other tablet forms.

The pressure used in the process according to the invention is lower than in conventional processes. In a preferred embodiment the pressure during tableting is between 30 N and 35 N which is low enough to protect the bacteria from dying and high enough to make the tablet strong enough to withstand pressing through the bottom of the aluminium plate of a blister without damages.

Conventional tableting machines can be used for making the tablets according to this invention. However, special apparatus especially designed for the process according to the invention can be made if production volumes are very high.

In the process according to the invention the aluminium blister's folio size is thinner than usually. In a preferred embodiment of the invention the aluminium blister's folio size is 20

The invention relates to a process for producing lactic acid bacteria tablets wherein a mixture of lactic acid bacteria and carrier comprising lactic acid bacteria approximately 7×10^9 CFU/g is formed and tablets are formed from the mass under pressure 25 N to 40 N, preferably 30 N to 35 N, to enable the substantial amount of bacteria to stay viable and to make the tablets hard enough to withstand pressing through aluminium blister of the package; the tablets are packaged in aluminium blisters right after the formation of the tablets.

In a preferred embodiment of the invention the amount of bacteria in the mass is 25 to 35 %. The size of the tablets is preferably 0.5-0.75 g. The amount of viable bacteria in the tablet according to the invention is at the least 1×10^9 CFU/g, preferably over 3×10^9 CFU/g. A preferred form of the tablets is round.

In a preferred embodiment of the invention the lactic acid bacteria are aerobic or facultative aerobic. All ingredients have preferably relative humidity less than 4 degrees and all ingredients are at the same temperature.

In a preferred embodiment the aluminium blister's folio size is 15 to 25 microns, preferably 20 microns. The packaging is preferably done under N_2 .

The invention will now be described in more detail. The terms used in the specification and in the claims have the meaning usually understood in microbiology, biochemistry, tableting and related technology.

The invention according to the application relates to a process for producing lactic acid bacteria tablets containing a physiologically effective amount of lactic acid bacteria which tablets are packaged properly for storage and transportation. Aerobic lactic acid bacteria are preferred since they are not sensitive to air and oxygen. Thus, no special conditions are needed during production and storage. Anaerobic lactic acid bacteria can be used if the manufacturing conditions are suitable, especially if the lactic acid bacteria are properly lyophilized. Tablets can be formed in such a production method that the bacteria are kept viable during the tableting and storing and so that the tablets are packaged properly for storage and transportation.

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/SE96/01043 (22) International Filing Date: 23 August 1996 (23.08.96) (30) Priority Data: 9502941-9 25 August 1995 (25.08.95) SE (71) Applicant (for all designated States except US): DETUM AB [SE/SE]; P.O. Box 531 82, S-400 15 Göteborg (SE). (72) Inventor; and (75) Inventor/Applicant (for US only): CEDGÅRD, Lennart [SE/SE]; Skolgatan 26, S-413 02 Göteborg (SE). (74) Agents: GRAUDUMS, Valdis et al.; Albiñ West AB, P.O. Box 142, S-401 22 Göteborg (SE).	(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>With amended claims.</i> <i>In English translation (filed in Swedish).</i>	

(54) Title: METHOD FOR THE PRODUCTION OF TABLETS BY PRESSING AND TABLETS PRODUCED BY THE METHOD

(57) Abstract

The invention relates to a method for the production of tablets by pressing of tablet material which comprises microorganisms. The method is characterized in that the tablet material also contains oligosaccharides, preferably inulin. The invention also includes tablets produced by the method according to the invention.

5 CLAIMS:

1. Method for the production of tablets having high
viability in the tablet by pressing tablet material
containing living microorganisms,
10 c h a r a c t e r i z e d i n that the tablet material
also contains oligosaccharides.

2. Method according to claim 1
c h a r a c t e r i z e d i n that the oligosaccharides
15 are present in an amount of 40-99.5 percent by weight of
the tablet material.

3. Method according to any of claims 1-2,
c h a r a c t e r i z e d i n that the oligosaccharides
20 consist of fructose oligosaccharides.

4. Method according to any of claims 1-3,
c h a r a c t e r i z e d i n that the oligosaccharides
consist of inulin.
25

5. Method according to any of claims 1-4,
c h a r a c t e r i z e d i n that the microorganisms
consist of lactic acid producing bacteria.

30 6. Tablets produced according to any of claims 1-5
containing oligosaccharides and microorganisms.

7. Tablets according to claim 6,
c h a r a c t e r i z e d i n that the oligosaccharides
35 consist of fructose oligosaccharides.

8. Tablets according to any of claims 6-7,
c h a r a c t e r i z e d i n that the oligosaccharides
consist of inulin.
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104

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCIÓN DE NUEVAS CREACIONES**

Abogado
Emilio Ferrero

ASUNTO	Radicación	06-109239
	Trámite	002
	Evento	001
	Actuación	430
	Oficio	Nº 08197
	Folios	013

Patente de Invención	☒	Patente de Modelo de Utilidad	☐
Vía Nacional	☐		
Vía PCT (fase nacional)	☒	Cap. I	☒ Cap. II ☐
No. Sol. Internacional		PCT/IB2005/001458	

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

<u>Descripción:</u>	Folios: 24 a 41 como se radicó inicialmente.
<u>Reivindicaciones:</u>	Folios: 42 a 44 como se radicó inicialmente.
<u>Figuras:</u>	Folios: 46 a 48 como se radicó inicialmente.
<u>Prioridad:</u>	28/04/2004, Francia, FR 0404508

2. Objeto de la invención

Título de la solicitud: "Proceso para sembrar un medio con microorganismos en forma de tableta".

El objeto de la presente solicitud de patente de invención consiste en suministrar un nuevo medio conveniente a la siembra directa o semi-directa de microorganismos.

El problema planteado en esta solicitud es que los fermentos en polvo que contienen microorganismos y que son utilizados en la industria alimenticia para la fermentación o maduración de diferentes productos, no siempre se incorporan de manera homogénea en las mezclas alimenticias, lo que ocasiona productos inestables y desperdicio de fermento.

105

Para solucionar este problema técnico la solicitud en estudio proporciona fermento de microorganismo en forma de tableta, para ser utilizado en siembra directa o semi-directa.

El objeto de la solicitud definida anteriormente se clasificó en la IPC: A23C 09/123.

3. De la solicitud de Patente

3.1. Descripción (artículo 28 D. 486)

A lo largo de todo el capítulo descriptivo se menciona la forma de elaboración de fermento en forma de tabletas. Los dos ejemplos presentados ilustran la elaboración de estas tabletas con cepas bacteriales de tipo *Lactobacillus* y su utilización en la fermentación de productos lácteos.

De esta manera, el método de siembra de medios a partir de microorganismos en tableta diferentes a *Lactobacillus* no tiene suficiencia para el experto en la materia, puesto que el capítulo descriptivo no aporta la forma de elaboración cuando se utilizan microorganismos diferentes y tampoco se aportan pruebas comparativas de actividad para microorganismos en tableta o liofilizados.

De esta manera, la descripción presentada no cumple con los requisitos establecidos en el art. 28 de la Decisión 486.

3.2. Reivindicaciones (artículo 30, D486)

El capítulo reivindicatorio presentado carece de claridad y sustento por cuánto:

- La materia mencionada en las reivindicaciones 21 y 22 no se refiere a características técnicas particulares y definidas de la invención, sino que referencia de manera general los ejemplos aportados por la descripción.
-

De esta manera, el capítulo reivindicatorio presentado no cumple con los requisitos establecidos en el art. 30 de la Decisión 486.

4. Reivindicaciones relativas a un uso o a un segundo uso (artículos 14 y 21 D 486)

La materia de las reivindicaciones 9, 12, 15-20, reclaman el uso del método planteado para sembrar un medio o el uso del compuesto en forma de tableta; según la norma comunitaria los usos no son materia susceptible de patente.

De esta manera y de acuerdo a lo establecido en los artículos 14 y 21 de la Decisión 486 la materia de las reivindicaciones 9, 12, 15-20 no sería patentable.

5. Determinación del Estado de la Técnica

La fecha que se ha tenido en cuenta para determinar el Estado de la Técnica es:
Fecha de presentación de la solicitud prioritaria 28/04/2004

Teniendo en cuenta la fecha indicada se realizó la búsqueda en el estado de la técnica de documentos relacionados con la solicitud encontrándose los siguientes documentos más relevantes:

Nº	Documento	Título	Fecha de publicación
D1	US5207899	"Rotating bacterial tablet dispenser for an underground wastewater denitrification system"	04/05/1993
D2	WO 01/95918	"A process for producing and packaging lactic acid bacteria tablets"	20/12/2001
D3	WO 97/07822	"Method for the production of tablets by pressing and tablets produced by the method"	06/03/1997

6. Análisis de patentabilidad (artículo 14 D486)

6.1. Novedad (artículo 16 D486)

La solicitud se refiere a un método de sembrar un medio, donde el método comprende: poner en contacto microorganismos con un medio en donde los microorganismos están en la forma de una tableta.

En el estado del arte han sido divulgados entre otros:

- Uso de microorganismos en forma de tableta para alimentar medios de cultivo, tal como en US5207899 (D1), donde se usan bacterias en tableta para sistemas de tratamiento de aguas residuales (ver resumen, columna 1 y 2 de D1).
- Métodos para la obtención de bacterias de tipo ácido láctico empacadas en tableta, tal como en WO 01/95918 (D2), donde además se utilizan estas tabletas para la producción de alimentos lácteos (ver resumen, pág 2 a 5, reivindicaciones de D2)
- Métodos para la producción de microorganismos contenidos en tabletas, tal como el divulgado en WO 97/07822 (D3), donde se utilizan microorganismos de tipo ácido láctico bacterias (ver resumen, reivindicaciones de D3)

De esta manera, en el estado del arte ya se conocían los métodos para sembrar medios a partir de microorganismos en forma de tableta, usados en diferentes medios y con diferentes tipos de bacteria.

Por tanto, la invención reclamada en la solicitud carece de novedad e incumple el artículo 16 de la D486.

6.2. Nivel inventivo (artículo 18 D486)

Las reivindicaciones dependientes de solicitud formulan la utilización de bacterias lácteas en el método de siembra para utilización en medios líquidos, gelados, fermentables y su uso en la industria de alimentos agrícolas, de productos lácteos entre otros.

De esta manera, de acuerdo con la información presentada y sustentada en la descripción el problema resuelto por la solicitud es obtener microorganismos en forma de tableta para ser usados en diversos medios que contienen ácido lácteo bacterias.

Sin embargo, tal como se evidenció en el numeral anterior, esta forma de presentación de microorganismos ya se conocía en el estado del arte, particularmente la presentación y uso de ácido lácteo bacterias en tabletas en la industria de productos lácteos.

Particularmente, los documentos D2 y D3 presentan este mismo tipo de bacterias y la forma de presentación de las mismas es en tableta (ver resumen, pág 2-5, reivindicaciones de D2; ver resumen, reivindicaciones de D3).

En D2 se resuelve este problema usando alta presión para la formación de tabletas y asegurando que estas se mantengan de forma viable y se puedan almacenar por largo tiempo. D2 también usa como transportadores o compuestos compresibles solubles polisacáridos o oligosacáridos, por ejemplo inulina, sorbitol, celulosa (ver pág 5, párrafo 3 de D2).

Por su parte D3 también resuelve el problema de los microorganismos en presentación en polvo y su resistencia a la penetración en el medio usando la presión para la formación de tabletas de estos microorganismos. Este documento igualmente usa la inulina, y en general los polisacáridos u oligosacáridos como sustancia de soporte de las lácteo bacterias (ver resumen; pág 3 línea 15-20 de D3).

De esta manera, el desarrollo reclamado se deriva evidentemente del conocimiento básico de un técnico y de las enseñanzas de D1, D2 ó D3. Por lo tanto carece de actividad inventiva e incumple el artículo 18 de la D486.

7. Conclusión:

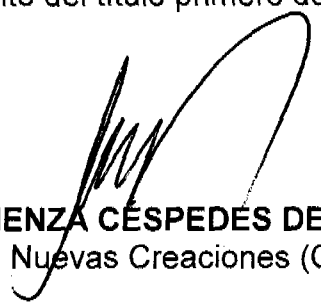
Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

Nº	Documento Nº	Reivindicaciones afectadas	Requisito que afecta
D1	US5207899	1-20	Novedad Nivel inventivo
D2	WO 01/95918	1-20	Novedad Nivel inventivo
D3	WO 97/07822	1-20	Novedad Nivel inventivo

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de 60 días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

1018

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.



ALIX CARMENZA CÉSPEDES DE VERGEL
Directora de Nuevas Creaciones (C)

El anterior requerimiento fue notificado por fijación en lista, de fecha
_____ 25 JUN. 2010

CONCEPTO TÉCNICO No. 1994	EXAMINADOR TÉCNICO Código No.202052
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