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(51) International Patent Classification ⁵ : A23L 1/015, 1/217, C12P 7/08	A3	(11) International Publication Number: WO 96/09772 (43) International Publication Date: 4 April 1996 (04.04.96)
(21) International Application Number: PCT/US95/11956 (22) International Filing Date: 19 September 1995 (19.09.95) (30) Priority Data: 94202703.8 21 September 1994 (21.09.94) EP <i>(34) Countries for which the regional or international application was filed:</i> AT et al. (60) Parent Application or Grant (63) Related by Continuation US 94202703.8 (CIP) Filed on 21 September 1994 (21.09.94) (71) Applicant (for all designated States except US): GENENCOR INTERNATIONAL, INC. [US/US]; 4 Cambridge Place, 1870 South Winton Road, Rochester, NY 14618 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): VERLEUN, Theodorus, Marius [NL/NL]; Dotterbloem 21, NL-2635 KA Den Hoom (NL). LENTING, Hermanus, Bernardus, Maria [NL/NL]; Hunze 5, NL-2641 VT Pijnacker (NL).		(74) Agent: STONE, Christopher, L.; Genencor International, Inc., 180 Kimball Way, South San Francisco, CA 94080 (US). (81) Designated States: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, 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), ARIPO patent (KE, MW, SD, SZ, UG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 25 July 1996 (25.07.96)
(54) Title: DEFATTING STARCH CONTAINING WASTE PRODUCTS (57) Abstract The invention provides a novel method and use of waste products containing starch and fatty substances. Especially waste food products which do not live up to the manufacturer's specifications are often discarded or used in low economic value applications. For instance, pre-fried French fries are used as cattle feed. The invention allows for these waste products to be used in many applications for which conventionally-obtained starch is applied in that the fatty substances are at least functionally removed from the starch without a significant rise in costs. The fatty substances are functionally removed by an enzymatic treatment employing a lipase.		

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INTERNATIONAL SEARCH REPORT

 Int. onal Application No
 PCT/US 95/11956

 A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 A23L1/015 C12P7/08 A23L1/217

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 Minimum documentation searched (classification system followed by classification symbols)
 IPC 6 A23L C12P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Week 8628 Derwent Publications Ltd., London, GB; AN 86-180723 XP002002058 & JP,A,61 115 458 (YOKOHAMA MARU-UO KK ET AL.) , 3 June 1986 see abstract ---	1,2,16
X	DATABASE WPI Week 7848 Derwent Publications Ltd., London, GB; AN 78-86825A XP002002059 & JP,A,53 121 999 (MEITO SANGYO CO KK) , 24 October 1978 see abstract --- -/--	1,2,16

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

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 "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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 "&" document member of the same patent family

Date of the actual completion of the international search

3 May 1996

Date of mailing of the international search report

29. 05. 96

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INTERNATIONAL SEARCH REPORT

Int. onal Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE WPI Week 9137 Derwent Publications Ltd., London, GB; AN 91-267788 XP002002060 & DD,A,288 980 (ZENT ERNAHRUNG ET AL.) , 18 April 1991 see abstract ---	1,2,16
A	PATENT ABSTRACTS OF JAPAN vol. 15, no. 256 (C-845), 28 June 1991 & JP,A,03 082900 (WATARU SAKAI), 8 April 1991, see abstract ---	
A	DATABASE WPI Week 9203 Derwent Publications Ltd., London, GB; AN 92-021314 XP002002061 & JP,A,03 270 781 (NIPPON HEALTH KOGYO) , 2 December 1991 see abstract ---	
A	WO,A,92 20777 (SOLVAY ENZYMES INC. ET AL) 26 November 1992 see abstract -----	10-16

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US95/11956

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. claims 1-9; 16 Removal of fatty substances from waste products
2. claims 10-16 Production of Ethanol

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No
PCT/US 95/11956

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO-A-9220777	26-11-92	US-A- 5231017	27-07-93
		AU-B- 661702	03-08-95
		AU-B- 2155692	30-12-92
		BR-A- 9206015	27-12-94
		CA-A- 2102896	18-11-92
		CN-A- 1069768	10-03-93
		EP-A- 0585374	09-03-94
		JP-T- 7509118	12-10-95
