

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 May 2008 (22.05.2008)

PCT

(10) International Publication Number
WO 2008/061190 A3

(51) International Patent Classification:

A23K 1/14 (2006.01) A23L 1/00 (2006.01)
A23L 1/01 (2006.01) C11B 1/04 (2006.01)

(21) International Application Number:

PCT/US2007/084834

(22) International Filing Date:

15 November 2007 (15.11.2007)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/866,160 16 November 2006 (16.11.2006) US

(71) Applicants (for all designated States except US): **RE-
NESSEN LLC** [US/US]; 800 North Lindbergh Blvd.,
E2NA, Creve Coeur, Missouri 63167 (US). **CAN TECH-
NOLOGIES, INC.** [US/US]; 12900 Whitewater Drive,
Minnetonka, Minnesota 55343 (US). **CARGILL, INC.**
[US/US]; 15407 McGinty Road W, Wayzata, Minnesota
55391 (US).

(72) Inventors; and

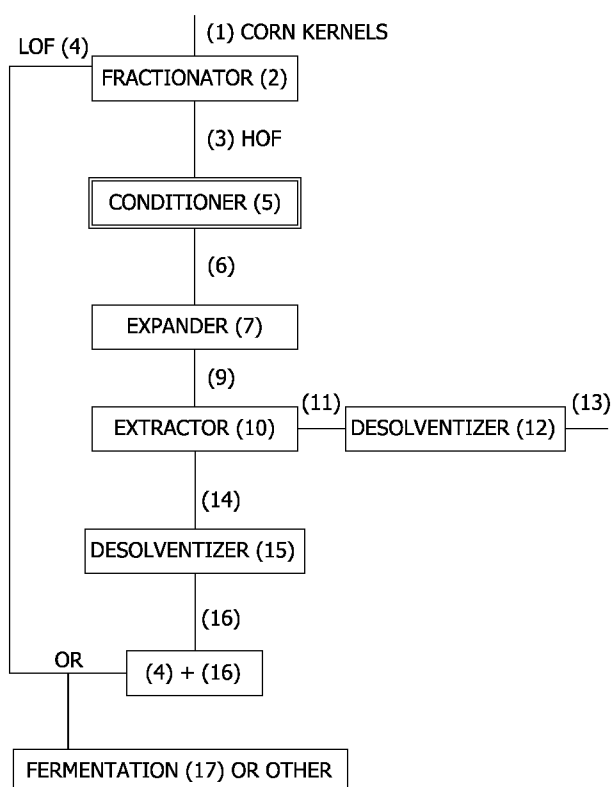
(75) Inventors/Applicants (for US only): **MCWILLIAMS,
Paul, J.** [US/US]; 5604 Richwood Lane, Racine, Wiscon-
sin 53402 (US). **VAN DE LIGT, Jennifer, L.G.** [US/US];
10627 Welcome Bay N., Brooklyn Park, Minnesota
55443 (US). **CERDA, Carlos Ibanez** [MX/US]; 11334
193rd Avenue NW, Elk River, Minnesota 55330 (US).
NEWCOMB, Mark D. [US/US]; 7950 Egret Drive,
Independence, Minnesota 55359 (US). **TOUCHETTE,
Kevin, J.** [US/US]; 1408 15th Street North, Princeton,
Minnesota 55371 (US). **INGVALSON, Joel** [US/US];
4740 York Avenue S, Minneapolis, Minnesota 55410
(US). **STROM, Toby, J.** [US/US]; 1007 N. 2nd Street,
Oskaloosa, Iowa 52577 (US). **VAN HOUTEN, Michael**
[US/US]; 1215 Fairbanks Drive, Carmel, Indiana 46033
(US). **WHEELER, Brian, R.** [US/US]; 3300 Centennial
Road, Martinsville, Indiana 46151 (US).

(74) Agents: **HARPER, James, D.** et al.; Senniger Powers
LLP, 100 North Broadway, 17th Floor, St. Louis, MO
63102 (US).

[Continued on next page]

(54) Title: SOLVENT EXTRACTED CORN

FIG. 2



(57) Abstract: An improved extracted corn composition having an oil concentration of less than about 1.7 wt% (on an anhydrous basis) and containing high concentrations of protein and essential amino acids is provided. The composition has a nutritional profile advantageous for use as an animal feed ingredient. Also provided are processes for the preparation of the extracted corn composition; feed rations incorporating the extracted corn composition; and methods for the preparation of such feed rations.



(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, 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*

(88) **Date of publication of the international search report:**
8 January 2009

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/084834

A. CLASSIFICATION OF SUBJECT MATTER

INV. A23K1/14 A23L1/01 A23L1/00 C11B1/04

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)

A23L A23K C11B

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)

EPO-Internal, FSTA, WPI Data, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/108533 A (CARGILL INC [US]; RENESSEN LLC [US]; VAN HOUTEN MICHAEL [US]; BEAVER M) 17 November 2005 (2005-11-17) cited in the application	1-10, 22-27
A	paragraphs [0005] - [0020] paragraphs [0035] - [0094], [0111] tables 2,3 examples claims	11-21
X	US 4 454 804 A (MCCULLOCH MICHAEL G [US]) 19 June 1984 (1984-06-19) example 1	6-8
X	US 5 409 729 A (FRIESEN STANLEY A [US]) 25 April 1995 (1995-04-25) claim 12	6-8
	-/-	

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

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

12 November 2008

Date of mailing of the international search report

18/11/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Hartlieb, Ariane

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/084834

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99/56559 A (MONSANTO CO [US]; US AGRICULTURE [US]) 11 November 1999 (1999-11-11) page 3, line 16 - page 8, line 18 -----	1-27
A	US 3 615 655 A (FREEMAN JERE E ET AL) 26 October 1971 (1971-10-26) the whole document -----	1-27
A	WO 01/55283 A (CARGILL INC [US]; ANDERSON BETH R LF [US]; ULRICH JAMES F [US]; PURTLE) 2 August 2001 (2001-08-02) page 2, lines 8-30 -----	1-5, 22-27

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/084834

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2005108533 A	17-11-2005	AR 048624 A1	10-05-2006
		BR P10510053 A	16-10-2007
		CA 2562670 A1	17-11-2005
		EP 1751082 A2	14-02-2007
		JP 2007533826 T	22-11-2007
		KR 20070046787 A	03-05-2007
		US 2008260902 A1	23-10-2008
US 4454804 A	19-06-1984	AU 551507 B2	01-05-1986
		AU 8326982 A	23-12-1982
		CA 1180935 A1	15-01-1985
		DE 3222646 A1	05-01-1983
		ES 8304774 A1	16-06-1983
		FR 2507869 A1	24-12-1982
		GB 2102722 A	09-02-1983
		JP 58047440 A	19-03-1983
US 5409729 A	25-04-1995	NONE	
WO 9956559 A	11-11-1999	AU 3751799 A	23-11-1999
US 3615655 A	26-10-1971	NONE	
WO 0155283 A	02-08-2001	NONE	