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[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR SORTING SEEDS

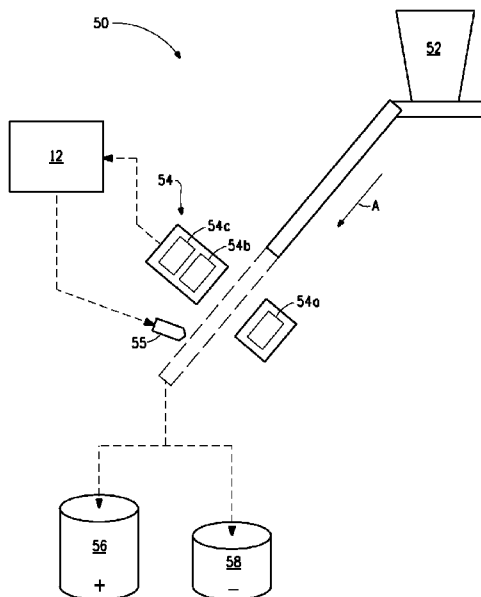


FIG. 2

(57) Abstract: A system and method are provided for separating seed or grain based on optical differences in the starch composition. A method for separating seed or grain based on optical differences in the starch composition includes receiving a seed group comprising a plurality of seeds. The method further includes illuminating each seed of the seed group from an illumination source disposed behind each seed such that the seed is back-illuminated. The method further includes sorting each seed of the seed group based on the differences in the starch composition. In some cases, the method includes sorting each seed by separating the seed group into the following groups: waxy seeds and non-waxy seeds.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B07C 5/36 (2014.01)

USPC - 209/606

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(8) - A01H 5/00; B07C 5/00, 5/342, 5/344, 5/36 (2014.01)

USPC - 209/523, 524, 525, 606; 800/320.1

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

CPC - A01H 5/00; B07C 5/00, 5/342, 5/344, 5/36 (2014.01)

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

PatBase, Google Patents, Google, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/48687 A2 (MODIANO et al) 20 June 2002 (20.06.2002) entire document	13-18
Y		1-12, 19-34
Y	US 2012/0228199 A1 (MODIANO et al) 13 September 2012 (13.09.2012) entire document	1-34
Y	US 2008/0179226 A1 (HUNTER et al) 31 July 2008 (31.07.2008) entire document	1-34
A	DOWELL et al., "Selecting and Sorting Waxy Wheat Kernels Using Near-Infrared Spectroscopy," Cereal Chem., Vol. 86, No. 3, Pgs. 251-255. June 2009. entire document	1-34

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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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"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	

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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774