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**Purkayastha et al.**

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(54) **STEVIA COMPOSITION TO IMPROVE SWEETNESS AND FLAVOR PROFILE**

(71) Applicants: **Siddhartha Purkayastha**, Lombard, IL (US); **Avetik Markosyan**, Yerevan (AM); **John Martin**, Chicago, IL (US); **Marcia Petit**, Chicago, IL (US)

(72) Inventors: **Siddhartha Purkayastha**, Lombard, IL (US); **Avetik Markosyan**, Yerevan (AM); **John Martin**, Chicago, IL (US); **Marcia Petit**, Chicago, IL (US)

(73) Assignee: **PureCircle Sdn Bhd**, Kuala Lumpur (MY)

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(51) **Int. Cl.**

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| ***A23L 2/60*** | (2006.01) |
| ***A23L 1/221*** | (2006.01) |
| ***A23F 3/40*** | (2006.01) |
| ***A23C 9/156*** | (2006.01) |
| ***A23L 1/236*** | (2006.01) |
| ***A23C 9/13*** | (2006.01) |

(52) **U.S. Cl.**

CPC ..... ***A23L 1/221*** (2013.01); ***A23C 9/1307*** (2013.01); ***A23C 9/156*** (2013.01); ***A23F 3/405*** (2013.01); ***A23L 1/2366*** (2013.01); ***A23L 2/60*** (2013.01)

(58) **Field of Classification Search**

CPC ..... A23L 1/2366; A23L 2/60; A23C 9/156
USPC ..... 426/548, 615, 640, 465, 520
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| 3,723,410 | A | 3/1973 | Persinos |
| 4,082,858 | A | 4/1978 | Morita et al. |
| 4,171,430 | A | 10/1979 | Matsushita et al. |
| 4,219,571 | A | 8/1980 | Miyake |
| 4,361,697 | A | 11/1982 | Dobberstein et al. |

(Continued)

FOREIGN PATENT DOCUMENTS

| | | |
|---|---|---|
| BR | P10701736 | 7/2008 |
| CN | 1049666 | 3/1991 |

(Continued)

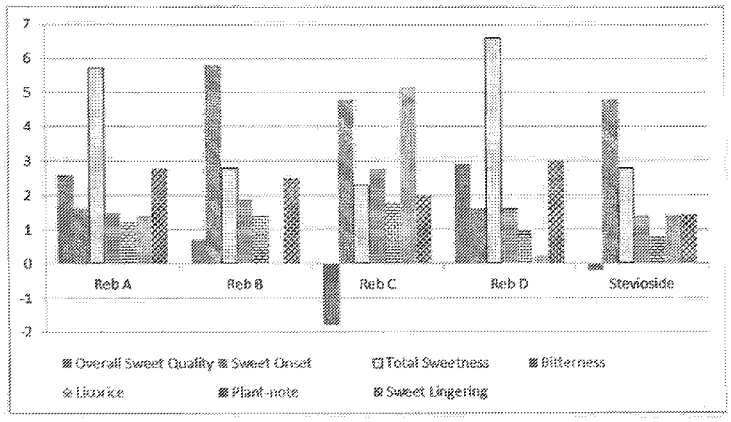
OTHER PUBLICATIONS

Ohio "14.0 Spray Drying and Spray Dryers", pp. 1-10, http://class.fst.ohio-state-edu/Dairy_Tech/14Spraydrying.htm Nov. 2, 2009 as obtained from internetarchive.org.*

(Continued)

*Primary Examiner* — Elizabeth Gwartney
(74) *Attorney, Agent, or Firm* — Briggs and Morgan, P.A.; Audrey J. Babcock

(57) **ABSTRACT**

*Stevia* compositions are prepared from steviol glycosides of *Stevia Rebaudiana* Bertoni. The compositions are able to provide a superior taste profile and can be used as sweetness enhancers, flavor enhancers and sweeteners in foods, beverages, cosmetics and pharmaceuticals.

**5 Claims, 6 Drawing Sheets**