



US006841185B2

(12) **United States Patent**
Sargent et al.

(10) **Patent No.:** **US 6,841,185 B2**
(45) **Date of Patent:** **Jan. 11, 2005**

(54) **FLAVORED COFFEE COMPOSITIONS AND METHODS OF MAKING THE SAME**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 265 days.

(21) Appl. No.: **10/156,282**

(22) Filed: **May 28, 2002**

(65) **Prior Publication Data**

US 2003/0077372 A1 Apr. 24, 2003

Related U.S. Application Data

(60) Provisional application No. 60/344,931, filed on Oct. 19, 2001.

(51) **Int. Cl.**⁷ **A23F 5/00**; A23F 5/24; A23F 5/34

(52) **U.S. Cl.** **426/594**; 426/650; 426/443; 426/471

(58) **Field of Search** 426/594, 443, 426/471, 650

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,469,553	A	5/1949	Hall	
2,750,998	A	6/1956	Moore	
2,771,343	A	11/1956	Arnold et al.	
3,310,612	A	3/1967	Somerville, Jr.	
3,373,041	A	3/1968	Bloom et al.	
3,436,227	A	4/1969	Bergeron et al.	
3,493,388	A	2/1970	Hair et al.	
3,615,667	A	10/1971	Joffe	
3,615,669	A	10/1971	Hair et al.	
3,620,756	A	11/1971	Strobel et al.	
3,625,703	A	12/1971	Ericson	
3,652,293	A	3/1972	Lombana et al.	
3,660,106	A	5/1972	McSwiggin et al.	
3,742,100	A	6/1973	Boyum et al.	
3,753,726	A	8/1973	Clinton et al.	
3,964,175	A	6/1976	Sivetz	
4,110,485	A	8/1978	Grubbs et al.	
4,267,200	A	5/1981	Klien et al.	
4,283,432	A	8/1981	Mitchell et al.	
4,331,696	A	5/1982	Bruce, III	
4,338,346	A	7/1982	Brand	
4,411,925	A	10/1983	Brennan et al.	
4,423,029	A	12/1983	Rizzi	
4,438,147	A	3/1984	Hedrick, Jr.	
4,626,435	A	12/1986	Zimmerman	
4,637,935	A	1/1987	Kirkpatrick et al.	
5,160,757	A	11/1992	Kirkpatrick et al.	
5,384,143	A	1/1995	Koyama et al.	
5,433,962	A *	7/1995	Stipp	426/96
5,462,759	A	10/1995	Westerbeek et al.	
5,635,238	A	6/1997	Trinh et al.	
5,993,877	A	11/1999	Ohtake	
6,004,593	A	12/1999	Soughan	

6,207,206	B1	3/2001	Mickowski et al.	
6,290,997	B1 *	9/2001	Villagran et al.	426/72
6,299,925	B1	10/2001	Xiong et al.	
2003/0039731	A1 *	2/2003	Dalton et al.	426/433

FOREIGN PATENT DOCUMENTS

DE	37 10 768	A1	10/1988
DE	44 11 204	A1	10/1995
DE	195 40 014	A1	4/1997
EP	0 168 112		1/1986
EP	0 560 609	A1	9/1993
EP	0 861 596	A1	9/1998
JP	62044137		2/1987
JP	08173043		7/1996
WO	01/00039	A1	1/2001

OTHER PUBLICATIONS

XP-002214771—Carboxylic Acids—Coffee: vol. 1—Chemistry, pp. 271–281.

XP-002227483—Flavouring Dried Coffee Extracts, Abstract Only.

Hunter, R.S.—“Photoelectric Color Difference Meter”—Journal of the Optical Society of America, vol. 48, No. 12, (Dec. 1958), pp. 985–995.

Coffee Processing Technology, vol. II, Avi Publishing Co., (1963), pp. 127–131 and 137–140.

Pintauro, N.D.—Coffee Solubilization Commercial Processes and Techniques, Noyes Data Corporation, “Agglomeration Techniques” (1975), pp. 177–209.

(List continued on next page.)

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(57) **ABSTRACT**

The present invention relates to non-segregating flavored coffee compositions. In particular, the present invention relates to novel flavored coffee compositions that minimize or inhibit the segregation and separation of constituent components, and the corresponding processes for making such compositions. The flavored coffee compositions herein are characterized as having a roast and ground, an instant coffee component, or mixtures thereof. The roast and ground coffee component will have a moisture level in the range of from about 1% to about 15%, a particle density in the range of from about 0.1 g/cc to about 0.45 g/cc, and a mean particle size distribution in the range of from about 400 microns to about 1300 microns. The instant coffee components used herein will have a particle density in the range of from about 0.1 g/cc to about 0.8 g/cc, a mean particle size distribution in the range of from about 250 microns to about 2360 microns, and a moisture level in the range of from about 1% to about 4.5%. The flavored coffee composition further contains a flavoring component with a moisture level in the range of from about 1% to about 7%, a particle density in the range of from about 0.1 g/cc to about 0.8 g/cc, and a mean particle size distribution in the range of from about 5 microns to about 150 microns. The ratio of coffee component particle size to flavor component particle size is in the range of from about 100:1 to about 5:1.

45 Claims, No Drawings