US005486375A

# United States Patent [19]

Yoder et al.

[11] Patent Number: 5,486,375

[45] Date of Patent: Jan. 23, 1996

[54] **CASEINATE REPLACEMENT COMPOSITION FOR IMITATION CHEESE AND PROCESS FOR MAKING IMITATION CHEESE**

[75] Inventors: **David Yoder**, Crown Point, Ind.; **Shau-Gan Chang**, Chicago, Ill.; **Ansui Xu**, Griffith, Ind.; **Thomas Domoras**, Commerce, Ga.

[73] Assignee: **American Maize Technology, Inc.**, Dimmitt, Tex.

[21] Appl. No.: **268,804**

[22] Filed: **Jun. 29, 1994**

**Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 69,140, May 28, 1993, abandoned.

[51] **Int. Cl.**[6] ..... **A23C 20/00**

[52] **U.S. Cl.** ..... **426/582**; 426/583; 426/575; 426/576; 426/578

[58] **Field of Search** ..... 426/573, 575, 426/576, 577, 578, 580, 661, 804

[56] **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| 3,836,677 | 9/1974 | Freck et al. . | |
| 4,104,413 | 8/1978 | Wynn et al. . | |
| 4,127,678 | 11/1978 | Burkwall, Jr. | 426/250 |
| 4,228,199 | 10/1980 | Chiu et al. . | |
| 4,499,116 | 2/1985 | Zwiercan et al. . | |
| 4,568,555 | 2/1986 | Spanier | 426/582 |
| 4,608,265 | 8/1986 | Zwiercan et al. . | |
| 4,678,676 | 7/1987 | Ishizuka et al. | 426/573 |
| 4,684,533 | 8/1987 | Kratochvil | 426/575 |
| 4,695,475 | 9/1987 | Zwiercan et al. . | |
| 4,724,152 | 2/1988 | Baker et al. | 426/335 |
| 4,859,484 | 8/1989 | Bielskis et al. | 426/573 |
| 4,971,723 | 11/1990 | Chiu et al. . | |
| 4,981,709 | 1/1991 | Furcsik et al. . | |
| 5,275,837 | 1/1994 | Eastman | 426/661 |

FOREIGN PATENT DOCUMENTS

| | | |
|---|---|---|
| 0402555 | 12/1990 | European Pat. Off. . |
| 2622772 | 5/1989 | France . |
| 61-108333 | 5/1986 | Japan . |
| 9414887 | 7/1994 | WIPO . |

OTHER PUBLICATIONS

Institute of Food Technologies, 1973, "Food Applications of High Amylose Starches" by Clifford H. Hullinger et al., 2 pages.

Food Processing Magazine, Jul. 1972, "Foods of Tomorrow–New Generation of Texture Protein".

*Primary Examiner*—Helen Pratt

*Attorney, Agent, or Firm*—Lucas & Just

[57] **ABSTRACT**

The caseinate replacement composition for imitation cheese is made of a granular hydroxypropylated, high amylose starch having a degree of substitution of greater than 0.04, gelatin and a gum such as pectin and carrageenan. The gum is used to decrease the amount of gelatin necessary and to improve the texture of the overall cheese analog. The caseinate replacement composition replaces all or a portion of the caseinate in the imitation cheese.

**20 Claims, No Drawings**