Acids in thousand pounds

Month Annual 1976
Issued Feb. 28, 1977
NUMBER OF MANUFACTURERS REPORTING 15

	FINISHED GOODS INVENTORIES (F) ON 1/1/76	PRODUCTION (A)	RECEIPTS (B)	DISPOSITION: Captive Consumption (C)	DISPOSITION: Domestic Shipments (D)	DISPOSITION: Shipment for Export (E)	TOTAL DISPOSITION	FINISHED GOODS INVENTORIES (F) ON 12/31/76
Saturated SP – Single Pressed; DP – Double Pressed; TP – Triple Pressed								
STEARIC ACID (40-50% Stearic Content) (1)	7,607	123,458	18,231	43,528	92,839	2,105	138,386	10,901
HYDROGENATED ANIMAL & VEGETABLE ACIDS: 60 C maximum titer & minimum I.V. 5 (2a)	5,283	103,113	1,868	592	101,946	1,343	103,900	6,344
HYDROGENATED ANIMAL & VEGETABLE ACIDS: 57 C minimum titer & maximum I.V. under 5 (2b)	3,690	126,814	20,416	50,184	96,424	372	146,982	3,938
HYDROGENATED ANIMAL & VEGETABLE ACIDS: Minimum Stearic Content of 70% (2c)	1,208	30,738	3,322	7,552	24,965	522	33,039	2,229
HIGH PALMITIC (Over 60% palmitic I.V. maximum 12) (3)	2,212	8,294	184	4,396	5,182	201	9,779	911
HYDROGENATED FISH & MARINE MAMMAL fatty acids (4)	329	7,262	173	1,065	5,946	3	7,014	760
LAURIC-TYPE ACIDS (I.V. minimum 5-Sapon val. minimum 245– including coconut, palm kernel, babassu) (5)	3,608	69,314	3,269	17,678	53,971	277	71,926	4,265
FRACTIONATED FATTY ACIDS: C_{10} or lower, including capric (6a)	794	18,380	349	758	16,000	1,733	18,491	1,032
FRACTIONATED FATTY ACIDS: Lauric and/or myristic content of 55% or more (6b)	2,665	16,249	2,262	5,480	12,033	196	17,709	3,467
TOTAL–SATURATED FATTY ACIDS	27,376	503,822	50,074	131,234	409,240	6,752	547,226	33,846
Unsaturated ND – Not distilled; SD – Single distilled; MD – Multiple distilled								
OLEIC ACID (red oil) (7)	8,944	154,571	7,886	69,235	85,856	2,696	157,787	13,614
ANIMAL FATTY ACIDS other than oleic (I.V. 36 to 80) (8)	3,701	136,862	22,479	47,788	109,859	209	157,856	4,186
VEGETABLE OR MARINE FATTY ACIDS (I.V. maximum 115) (9)	161	9,454	71	8,441	909	7	9,357	329
UNSATURATED FATTY ACIDS (I.V. 116 to 130) (10)	2,516	17,394	1,199	8,877	9,757	15	18,649	2,460
UNSATURATED FATTY ACIDS (I.V. over 130) (11)	1,673	21,446	30	235	16,369	5,099	21,693	1,466
TOTAL UNSATURATED FATTY ACIDS	16,995	338,727	31,665	134,576	222,740	8,026	365,342	22,045
TOTAL ALL FATTY ACIDS SATURATED & UNSATURATED	44,371	842,349	81,739	265,810	631,980	14,778	912,568	55,891

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Natural antioxidant isolated from spices

Work is continuing by a New Jersey firm on commercial development of a natural antioxidant extracted from rosemary and sage under a process that was patented last year by Stephen S. Chang and his associates of Rutgers University.

The natural antioxidant is a potential replacement for synthetic antioxidants in food products. Some consumers have been voicing concern about potential cumulative toxicity of synthetic additives.

Preservatives, whether natural or synthetic, help extend the shelf life of foods, Chang explains, thus reducing food costs for consumers. While there is no automatic assurance that a component of a natural food is totally safe, Chang notes that rosemary and sage have been used in human foods for thousands of years. Nevertheless, toxicity tests of the Rosemary Extract are now in progress.

The natural antioxidants are solvent extracted from the herb, washed with hot water, bleached with activated carbon, and then put through vacuum distillation in triglycerides. The result is an odorless, tasteless antioxidant totaling about 10 percent of the weight of the original rosemary.

Chang says the natural preservatives could replace synthetics such as BHT, BHA, TBHQ, and PG, now the most commonly used synthetic antioxidants. Food processors may use up to $72 million worth of antioxidants by 1985, according to one estimate in *Food Technology* last year.

The natural preservative from rosemary has been successfully tested in salad oils, shortenings, and potato chips, Chang said. It shows promise of performing better than synthetics at high temperatures. The rosemary extract also performs better in vegetable oils than do the synthetics, Chang says, which may make it valuable to the soybean oil industry. Food processors used 7.4 billion pounds of soybean oil last year. An effective, natural antioxidant would reduce the need for hydrogenation to extend product shelf life, thus reducing costs. Furthermore, the wholesomeness of the various isomers produced by hydrogenation are being questioned.

Presco Food Products Co. of Flemington, NJ, has taken a license on Chang's patent (U.S. 3,950,266). The new product does not have a name since processing development is still being worked out, but Presco chief Richard Kenyon foresees heavy demand for the product when it is ready for the market. The firm already has received inquiries from firms that want to manufacture and from firms that want to purchase the natural antioxidant, Kenyon says.

"We hope to have commercial use within a year," Dr. Chang said recently. Work is continuing on producing a pilot plant, to be followed by full-scale production.

The Rutgers lab continues researching other potential sources for natural antioxidants, Dr. Chang said. Rosemary and sage were among many potential sources investigated over a period of years, he explained. The work with those two spices began about six years ago when Dr. Biserka Ostric-Matijasevic of Yugoslavia spent his sabbatical working in the Rutgers laboratory.

Chang describes the discovery of the antioxidants as a "bonus" from the basic long-term research on autoxidation of lipids. The lab is still working to elucidate the chemical structure of the active antioxidant components in the extracts of rosemary and sage.

Spices, valued in former days for their ability to preserve food, may again be recognized for that quality, as well as for the flavor they add. ●