



# RAFI COMMUNIQUE

RURAL ADVANCEMENT FUND INTERNATIONAL

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## New Substitutes Threaten to Displace Export Market for Water Soluble Gums

**ISSUE:** Replacement of Major Cash Crop  
**COUNTRIES AFFECTED:** Nigeria, Senegal, Sudan and others  
**CROP:** Gum Arabic ("hashab")  
**IMPACT:** Possible loss of \$60 million in annual export earnings and seasonal employment  
**WHEN:** Immediate; 1986 crop

New starch-based substitutes for gum arabic and other water soluble gums threaten to replace a major portion of gum exports from several African countries.

Water soluble gums, especially gum arabic, are widely used throughout the food processing industry--particularly in beverages and confections. In 1984, the United States imported approx. 25 million lbs. of gum arabic valued at \$18 million (before processing). The U.S. market accounts for an estimated one-third of all the gum arabic produced for export.

Gum arabic is a dried, gummy exudation which comes from the acacia tree (*A. senegal*) *A. senegal* originates in the dry savannas of tropical Africa and extends to the Red Sea and eastern India. The Sudan currently accounts for 80 percent of the world's supply of gum arabic. In 1983, gum arabic accounted for 8 percent of that nation's export earnings, approximately \$57 million. Nigeria and Senegal also produce gum arabic.

Beginning with the 1984/85 crop year, a sharp drop in worldwide gum arabic production created a shortage of gum arabic in the U.S. and Europe. In response to the gum arabic shortage, numerous companies have developed substitutes to replace this important ingredient. According to Food Processing Magazine:

The reason for the need of the replacer is that over the past two years a shortage of gum arabic from Sudan has

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developed. Many factors have contributed to the shortage including dry weather which destroyed a portion of the growing crop, but, also, political and economic factors have contributed to less activity in harvesting the crop which was available. The net result was that the 1984/5 crop was only 10,000 metric tons compared to a typical crop of 40,000 metric tons. However, there will be a time during which no gum arabic will be available on the American market. (Food Processing Magazine, Nov., 1985)

Over 30 brand-name gum arabic substitutes are now available in the U.S. Many of these are aggressively marketed with claims of superior cost effectiveness to Sudanese gum arabic. Most substitutes are starch-based and contain some portion of gum arabic.

TIC Gums, Inc., a New York City-based food processing company which specializes in gum products has launched a major advertising and promotional campaign for its newest gum substitute, "Aragum 3000". The company refuses to discuss the new product, but one beverage company executive who has tested the substitute claims that it consists of one-third gum arabic and two-thirds starch. Aragum 3000 reportedly costs 20 cents per lb. less than pure gum arabic, and processors can use 20 percent less in their formulas for processing.

Although the outlook for future supplies and production of gum arabic is improving, it is impossible to say how much the market for gum arabic will be affected by gum substitutes. Herbert Schultz of the U.S.-based Water Soluble Gum Association says that "starch substitutes have affected about 50 percent of the [U.S.] market," and he predicts that "about 25 percent of that market is recoverable if the price is right."

According to another industry analyst, Paul Flowerman of P.L. Thomas & Co., "My assessment is that as much as half of the market may be permanently lost," depending on the price and supply of the 1986-87 gum arabic crop.

An in-depth report on gum arabic prepared for the U.S. Agency for International Development in Khartoum, Sudan, concludes with a grim forecast for the gum arabic market in the U.S.

Another year of shortages will eliminate any need to further evaluate the price elasticity of demand of gum arabic: the product would have by then probably become a specialty ingredient purchased in very small volumes. (Marketing Sudanese Gum Arabic in the USA; Facts and Options, prepared by Paul M. Flowerman, October, 1985.)

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In addition to gum arabic, substitutes for other commercially important, natural gums are also being developed. Locust bean gum (often referred to as vegetable gum) is extracted from the seed pod of the locust or carob tree (*Ceratonia siliqua* L.) The locust tree is indigenous to the near East and Mediterranean areas. Spain, Portugal and Italy are major exporters.

Karaya gum may also be affected by the development of gum substitutes. Karaya gum is the dried exudate of the *Sterculia urens* tree, and India is the sole source of supply.

#### Sources

Water Soluble Gum Association, Herbert Schultz, President, 79 Locust Ave., Staten Island, NY 10306

Marketing Sudanese Gum Arabic in the U.S.A.: Facts and Options, prepared by Cheechi and Co., Washington, D.C. for U.S. AID in Khartoum, Sudan. Author: Paul M. Flowerman, October, 1985.

Prepared Foods Magazine, July, 1986.

Food Processing Magazine, "Gum System Replaces Short Supply Gum Arabic", November, 1985.

#### UPDATE -- October, 1986

In October, 1986, Hope Shand of the RAFI staff met with a visiting delegation of Sudanese labor leaders representing the Sudanese Workers Trade Union Federation.

The Sudanese delegation had no previous knowledge of the threat of gum substitutes. RAFI was able to provide further documentation of this issue and the delegation stated that the information would be widely publicized upon their return to the Sudan.

