ANNOUNCEMENT

1970-71

SMALLEY CHECK SAMPLE PROGRAM

The Smalley Committee annually offers a number of Check Sample Series in various analytical categories. Interested analysts should write to Smalley Committee, AOCS, 35 E. Wacker Drive, Chicago, Illinois 60601, prior to July 15, 1970 for order forms and complete information, which will be distributed before each series begins.

The following Check Sample Series (the number of samples being shown in parenthesis) are offered:

Cottonseed (10)	Oilseed Meals (15)	Cottonseed Oil (4)
Soybeans (10)	Edible Fats (5)	Soybean Oil (4)
Peanuts (7)	Drying Oils (6)	Copra (4)
Safflower Seed (7)	Tallow & Grease (5)	N.I.O.P. Fats & Oils (5)

Gas Chromatography (fatty acid composition) (6)
Cellulose Yield (cotton linters) (10)

Additional series will be offered should sufficient interest be indicated. Please advise the Smalley Committee of series you feel would be of value.

R. T. Doughtie, Jr., Chairman
Smalley Committee

Commercialization of Freeze-Dried Foods

A few freeze-dried foods have recently become commercially established in some developed countries. As the name implies, the food product is first frozen and then dried under high vacuum. Thus, there is minimum exposure to the possible harmful effects (loss of structure, color, or flavor) which elevated temperatures, such as those used in canning, may cause.

Instant coffee of improved flavor is a recent notable example of a freeze-dried food product. Other examples are freeze-dried seafoods, such as shrimp or crabmeat. Still another example is freeze-dried salad mixes, such as ham, egg, tuna, or chicken.

Freeze-dried foods have certain advantages. They are usually easily reconstituted with water. They need neither refrigeration nor freezing for preservation. They represent the ultimate in compactness, yet, upon rehydration, they assume close to their original form and organoleptic properties. When properly packaged, especially to avoid oxygen and moisture transfer, they usually have a long shelf life.

Yet, with all these advantages, the commercialization of freeze-dried foods in developed countries has been a slow process, still limited to a few, relatively expensive convenience foods. The reasons for this appear to be: 1. The necessary new food technology has required considerable research and development, quite custom-made for each food product to be dried. 2. The capital investment in high vacuum equipment has been very high. 3. The processing costs for water removal have been considerably higher than for other dehydration processes. 4. Because of these higher production costs, the consumer pays a higher price than for comparable products processed by other means. 5. Since freeze-dried foods are different in appearance from more conventionally processed foods, the consumer has to be convinced that the product will rehydrate to make a completely satisfactory food. 6. And it must be said that progress has been slowed because the rehydrated product has, at times, only been fair in quality and not equal to a fresh, refrigerated, or frozen equivalent. In developed countries, the development of markets for freeze-dried foods is being given impetus by the needs of various groups.

But of what importance are freeze-dried foods to the developing countries? In recent months, we have had several inquiries from developing countries concerning the feasibility of their developing a freeze-dried food industry. It is tempting, indeed, to think about developing a lucrative export food business, based on freeze-drying. Such foods would not need refrigeration during shipment. They would occupy less space at minimum weight. They could help span the seasons of scarcity for perishable foods. They would have a long shelf life so that a long ocean voyage would not be detrimental.

Unfortunately, however, there are many obstacles. A large capital investment would be needed. To maintain the equipment in good working order would require a high degree of sophisticated food engineering skill. Rigorous quality standards, beginning with the field crop and continuing through until the packaged food reached the consumer, would need to be set and enforced.

After weighing the pros and cons, it would appear that a commercial freeze-dried food industry for developing countries lies many years into the future. If, however, a country is interested in the possibility of developing such an industry, the first step would be to make careful studies to pinpoint which products could be successfully marketed in various areas. Once selected, small amounts of the product to be used in further market testing could be made using existing pilot plant facilities, before undertaking any large capital investment in equipment.