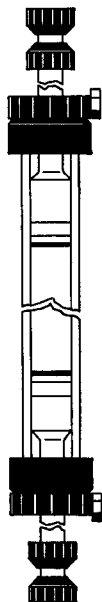


NEW from PHARMACIA

SEPHADEX® LH-20 extends gel filtration to organic solvents



Pharmacia Fine Chemicals now introduces the first lipophilic derivative—Sephadex LH-20—to extend the use of Sephadex to organic solvents. Since it swells in water, polar organic solvents and in mixtures of these solvents, Sephadex LH-20 makes it possible to apply the conventional Sephadex gel filtration technique in fields such as lipid chemistry, polymer chemistry and other areas of organic chemistry and biochemistry where organic solvents must be used.

Sephadex Solvent-Resistant Column

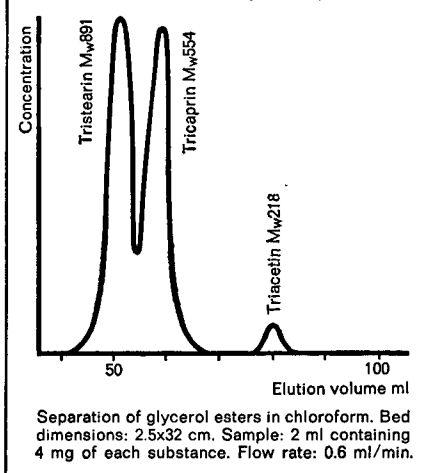
Having internal diameter 2.5 cm and 45 cm length, the new Sephadex Column SR 25/45 has been especially developed for chromatography in organic solvents. It is equipped with two specifically designed Upward-Flow Adaptors for conducting either ascending or descending chromatography as one of its many features.

RANGE OF APPLICATION

Solvent	Approx. solvent regain ml solvent/g dry gel	Approx. bed volume ml/g dry gel
Dimethylformamide	2.2	4
Water	2.1	4
Methanol	1.9	3.5-4.0
Ethanol	1.8	3.0-3.5
Chloroform*	1.8	3.0-3.5
n-butanol	1.6	3
Dioxane	1.4	2.5-3.0
Tetrahydrofuran	1.4	2.5-3.0
Acetone	0.8	1.5

*Containing 1% ethanol. Particle size: 25-100 μ

EXAMPLE OF SPECIFIC APPLICATION



For additional technical information, including the booklets *Sephadex LH-20* and *The Sephadex Solvent-Resistant Column*, write to:

PHARMACIA FINE CHEMICALS INC.
800 Centennial Avenue
Piscataway, New Jersey 08854

Pharmacia (Canada) Ltd., 110 Place Crémazie,
Suite 412, Montreal 11, P. Q.

(Inquiries outside U.S.A. and Canada should be directed to PHARMACIA FINE CHEMICALS, Uppsala, Sweden.)

Visit us at Booth No. 86, Eastern Analytical Symposium

• Fats and Oils Report

Outlook for the 1966-67 Soybean Season

ALTHOUGH THE SOYBEAN marketing year which ended on August 31 was one of record-breaking proportions it now belongs to history and will be used in the future only for comparative purposes. On the contrary, growers, handlers, consumers and speculators are only concerned with the two big current questions which are: 1) how big is the crop now being harvested and 2) how strong will world demand be for both oil and meal?

Soybean Supplies

The soybean marketing year was previously on an October-September basis but beginning with September 1, 1965 the marketing year was changed to a September-August basis. Soybean oil and soybean meal both remain on an October-September basis. The carrying supplies of soybeans on September 1 were placed at 35.7 million bushels and to this must be added the crop which is just now about fully harvested. The final estimate of production will not be released until December 20 and this estimate will carry with it a final revision of the 1965 crop size so that the final revision of the current crop size will not be until December 1967. On October 11, the Crop Reporting Board of the USDA estimated crop size at 926.8 million bushels as of October 1. Added to the starting supplies of 35.7 million bushels this would make total supplies of 962.5 million bushels. It is interesting to note that in 6 or the past 10 seasons the December estimate has been lower than the October estimate and in the year of the largest increase (1959) production was up only 8 million bushels or 1.5%. A similar increase percentage-wise this season would still only produce a crop of about 940.7 million bushels.

Product Demand

Both soybean oil and soybean meal are parts of a much larger supply of fats and oils and protein feedstuffs. Since substitution in some uses is possible for soybean meal and oil, it is necessary to also take a look at the supply and demand of these substitutes as well as the factors which affect total protein feedstuffs and fats and oils demand. Soybean meal and its competitors will be considered first.

Soybean Meal

Both grain and animal protein availability are expected to be essentially unchanged from last season except for a slight increase in fish meal supplies. Urea usage should also be a little higher and the slightly higher use of both fishmeal and urea will

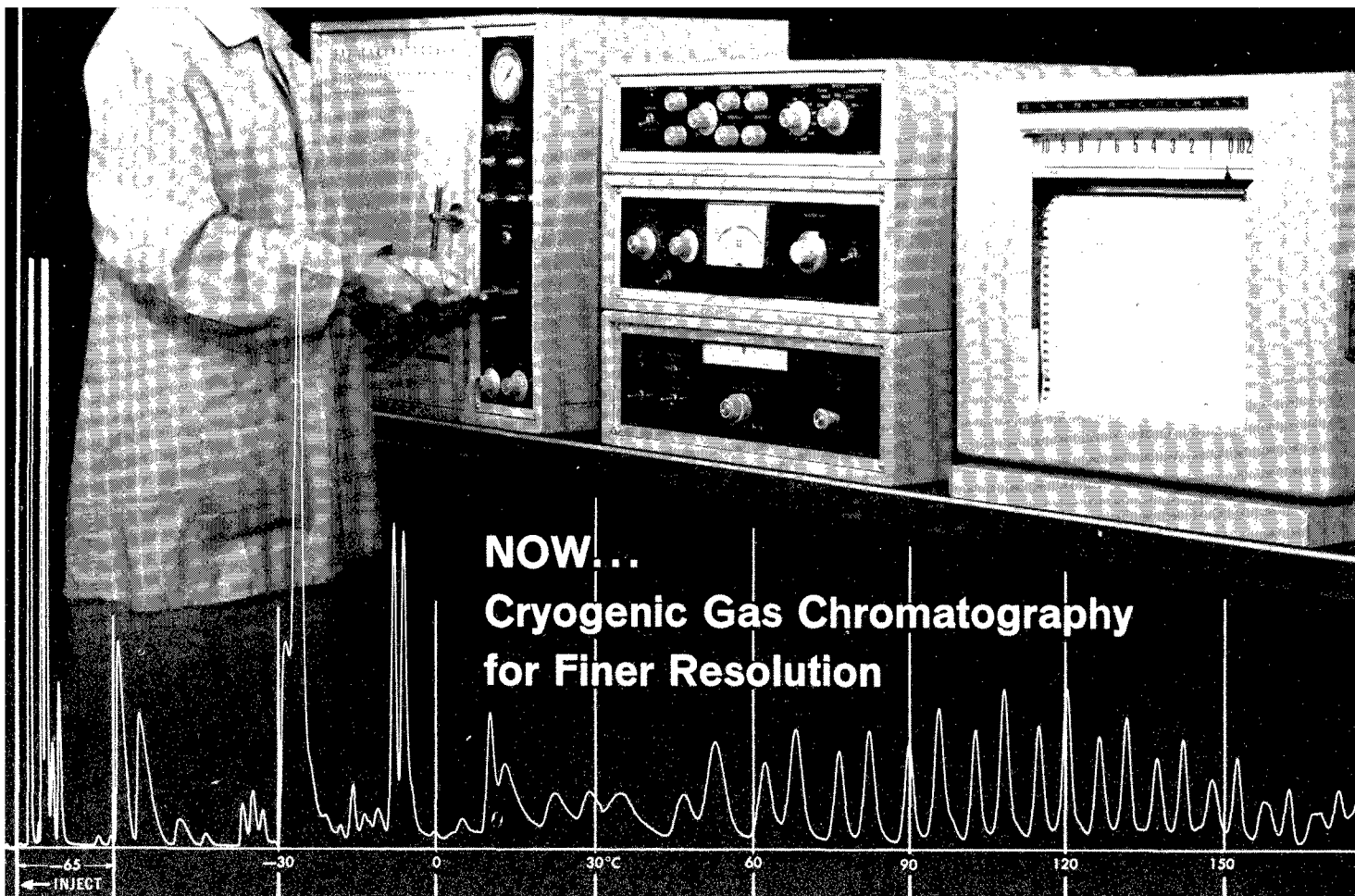
help offset an expected 28% reduction in cottonseed meal production. Thus to determine soybean meal requirements only cotton meal and soybean meal statistics were considered. The following table reveals one of the several methods of logic which an analyst may employ in an attempt to project soybean meal requirements for the current season:

TABLE I
(000's Short Tons)

725,000	cotton meal reduction of 28%
-160,000	urea and fishmeal substitution & unreplaceable cottonmeal use
-30,000	increased imports of cotton meal
535,000	cotton meal true shortfall
260,000	increased domestic meal use
315,000	increased exports of meals
1,110,000	true increased soybean meal requirements
12,935,000	estimated 1965/66 soymeal production
14,045,000	Total 1966/67 soybean meal production requirement

The 725,000 short ton reduction in cotton meal production is not likely to be replaced fully by soybean meal since roughly 10% or 70,000 tons of the cotton meal reduction is in California, which presents a geographical disadvantage to replacing some cotton meal with soybean meal. In addition, the quantity of protein fed per animal unit on a national basis may only hold steady in response to the deteriorating relationship between livestock and feed prices. Imports of cottonseed meal from Mexico should also increase due to a surplus oilseed production in that country this season. Thus, the true shortfall in cotton meal production may be closer to 535,000 short tons. The number of protein-consuming animal units in the USA this season is expected to be up 2% so that domestic use of both cotton and soybean meals may be expected to be up about 2% or 260,000 short tons from the nearly 13 million short tons fed last season. The 10-year average increase in the combined exports of soybean and cottonseed meals has been 16% which would be 418,000 short tons above our estimated combined exports of 2,610,000 short tons last season. However, I have only used an increase of 12% or 315,000 short tons because the higher average price levels this season should act as a deterrent. Also, the reported stagnation in East European numbers of protein-consuming animal units, last season's unusually large percentage increase in exports and a probable increased world availability of fish meal should act as additional deterrents. The arguments for at least some increase in meal exports are based upon another slight increase in West European protein-consuming animal units, poor fodder crops in Western Europe and a probable decrease in European supplies of two major competitive materials, i.e., groundnut meal and copra cake and

(Continued on page 528A)



**NOW...
Cryogenic Gas Chromatography
for Finer Resolution**

The finer resolution apparent in the lower chromatogram is a result of the Barber-Colman Subambient Temperature Programming System. The system is extremely useful in flavor analysis, pyrolysis, hydrocarbons and fixed gas applications.

The above pyrograms of polyethylene reveal the increased resolution obtainable with cryogenic gas chromatography. The upper chromatogram, with a large unresolved peak, is the type normally obtained with pyrolysis runs. The lower chromatogram, started at -65°C , reveals additional peaks between column temperatures of -65 and $+20^{\circ}\text{C}$.

Barber-Colman's introduction of this major advance offers you a convenient cryogenic system capable of programming temperatures from -65°C to 400°C accurately and easily. Complicated, mechanical, slow cooling methods are eliminated. Subambient Temperature Programming offers you:

- Increased Resolution — permits separations not

otherwise possible (e.g. Ar from O_2 or separations dependent upon unstable silver nitrate).

- Rapid, efficient, convenient cooling.
- Accelerated return to initial temperatures when performing above-ambient temperature programming.
- Full control of both heater and coolant from -65 to 400°C in either isothermal or programming mode.
- Lower temperatures permit use of highly selective phases of relatively high volatility.
- When programming is required, you can: use shorter columns; use lower initial and final temperatures; save analysis time; reduce column bleed; extend column life.

When purchasing your next gas chromatograph, specify a Barber-Colman Series 5000 Selecta-System with a Model 5080-100 temperature programmer and an A-6033 Subambient kit. For further information on Cryogenic Chromatography Systems, contact any of Barber-Colman's 50 sales and service offices or contact us in Rockford. See the Yellow Pages.

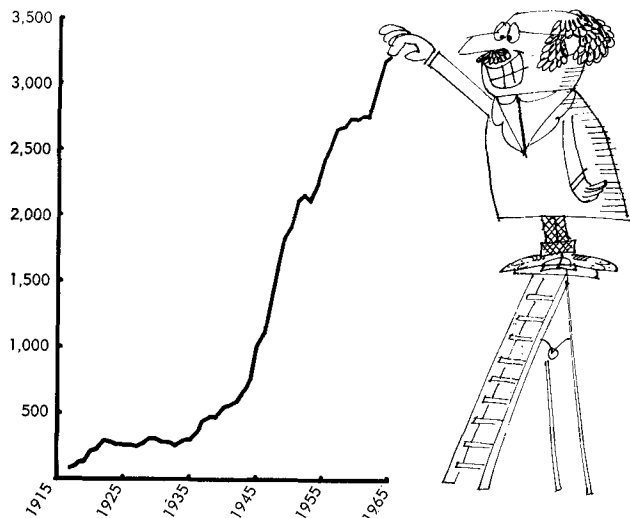


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AOCS MEMBERSHIP



*Increase the Returns
on Your
Investment!*

We can always get a bigger ladder!

To make a profit you must make an investment. This is as true for professional advancement as it is for economics. And it is true for the return on your investment in time and effort in the American Oil Chemists' Society. You get a minimum return by interpreting "membership" as simply a matter of paying dues and waiting for your copies of the *Journal* and *Lipids* to arrive. However, if you give of yourself, your "investment" will be more than returned. By participating in meetings and in committee work, you and your colleagues will profit by the improved services made available as a direct result.

This investment—full participation—is the key to new motivation, to continuing personal advancement and to Society growth.

This page and the facing pages are devoted to a particular kind of participation—the effort to interest qualified people in our Society's activities. This quest has been in progress since the founding of the Society, as is clearly indicated by the steady upward trend depicted on the graph above. However, not only quantity but quality is imperative. Seeking out those men and women who have both the professional skill and the capacity for full participation is the key to maintaining leadership in the fats and oils field by the American Oil Chemists' Society.

RAYMOND R. EISER, Chairman
Membership Committee

• *Non-Members:*

An official application blank for membership in the American Oil Chemists' Society is inserted here, inviting you to "professional association with the outstanding scientists and technologists interested in fats and fat-like substances." The list of new members on the opposite page represents those of your colleagues who have been welcomed to the Society within the past 30 days. The AOCS would like the opportunity to place your name on this list also. Should you have difficulty in locating the required sponsorship, the AOCS Membership Committee will assist you.



• *Members:*

Your new colleagues in AOCS are listed on the opposite page. The large number of new members testifies to the ever-expanding interest in these related fields of interest, and it further affirms the success of the Society in promoting growth among its members. *The enclosed membership card doesn't belong in this issue of the Journal: it should be placed as soon as possible in the hands of a qualified candidate for membership!*

