

# Polyunsaturated Milk: Wave Of The Future?

Milk changed before it leaves the cow so that it contains more polyunsaturated fat is a distinct possibility in the not too distant future.

There are still major problems to overcome. But there are good prospects, USDA researchers say, that the proportion of unsaturated to saturated fats can be raised to recommended levels at only a marginal increase in costs.

Following the lead of Australian researchers, chemists and dairy husbandrymen from USDA's Agricultural Research Service (ARS) corroborated reports that cows on unsaturated fat diets will produce milk with more polyunsaturated fatty acids.

Milk fat normally contains about three percent polyunsaturated fat. After the ARS experiment, the figure was increased to between 30 and 35 percent, or about the medically recommended level.

The scientists coated safflower oil, which contains a high percentage of unsaturated fatty acid, and made it into a feed supplement. The supplement was then made part of the diet of two Holstein cows serving as test animals. One was fed the coated oil at a rate of 1,500 grams per day, and the other, an uncoated oil at the same rate. The treat-

ments were alternated at 10-day intervals for 40 days.

The coating (casein treated with formaldehyde) protected the protein and oil in the feed from bacterial fermentation in the animal's rumen, so that the polyunsaturated oils in the supplement were delivered intact to the animal's digestive system.

Normally, bacteria in the rumen saturate most of these fats before they enter the animal's body tissues.

The milk from these animals was fed to veal calves. Biopsies showed their bodies to contain

four times as much polyunsaturated fat as when regular milk was fed, indicating that meat can also be produced whose polyunsaturated fat content is high.

The next step, say ARS researchers, is to eliminate problems of taste and cost. Because unsaturated fats are more susceptible to oxidation than saturated ones, milk produced this way develops an off-flavor very quickly. One ARS scientist described it as "tasting like cardboard." Adding anti-

oxidants to the milk is one possible solution.

Oils that are less expensive than safflower, but also high in polyunsaturated acids, will likewise have to be found. Work is now in progress using soybean oil.

It is a radical idea that the composition of natural foods can be altered to fit the nutritional needs of man. Dr. Michael Pallansch, head of the Dairy

Products Laboratory at ARS, suggests that it may even be possible over the years to breed a race of cows with milk and meat high in polyunsaturated fats.

Dr. Pallansch stresses that milk in its present form is not dangerous. But if and when consumers decide they would like it - or should like it - with more unsaturated fat, research is now paving the way to provide it for them.

## Computers Improve Auction Efficiency

Use of computers to handle sales data at livestock auctions greatly improves efficiency of the operation, according to a report by the U.S. Department of Agriculture (USDA).

A computer can tabulate the sales data summary of a livestock auction market in 15 to 20 minutes. If the same task is done with desk calculation, it often takes six hours. A computer also minimizes errors in computations, speeds up payment to sellers, provides accurate records of all transactions, and generally reduces clerical costs.

With the increasing volume of livestock sold in auction markets, more and more personnel have had to be hired to prepare sales records. The conventional system of recording these data has not changed much since the 1930's.

To improve the efficiency of livestock auctions, scientists of USDA's Agricultural Research

Service developed a system using a digital computer, card reader and list printer. The system is compact and fits easily into an average office. The computer makes all computations and prepares records and accounts, including checks for sellers and truckers. This system has been operated successfully at an auction market in Missouri for about three years.

Detailed information on how livestock auctions can take advantage of computers, including information on use of punch cards, preparation of accounts and daily summaries, and a sample flow chart, is available in USDA Marketing Research Report No. 980, "Computer Processing of Sales Data on a Livestock Auction Market." The report is available for 30 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. Please use zipcodes.

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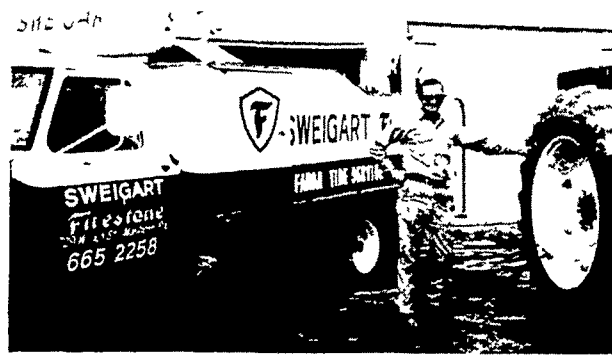
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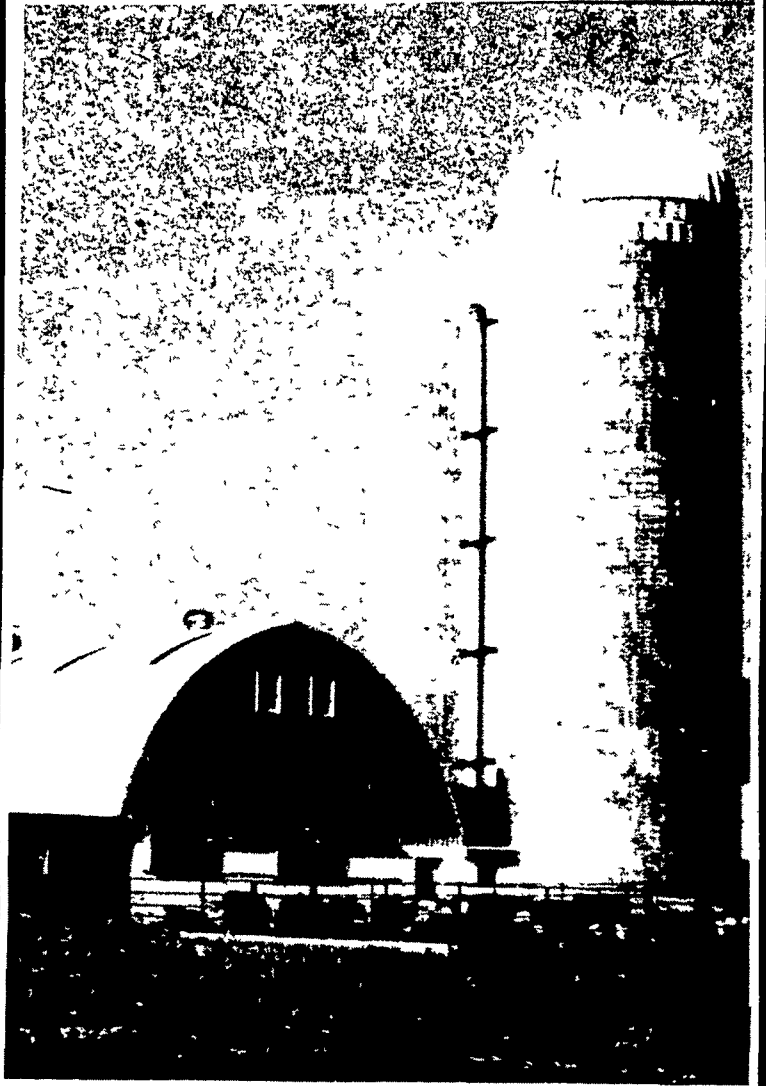
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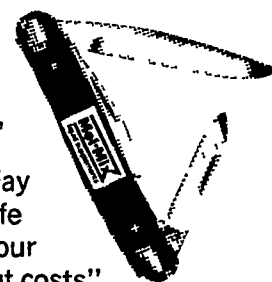
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