

Use of Fats in Feeds Seen As New Cycle in Agriculture

Caloric value of inedible fats higher than grain; supplies up owing to dwindling use by soap industry



John W. McCutcheon, consultant and author, and J. E. Magoffin of Eastman Chemical Products. Both spoke at the soap and glycerine producers' meeting on the problem of surplus tallow and grease

NEW YORK.—Rising supplies of grease and tallow as by-products of the packing industry may serve as low cost caloric energy in animal feeds among other advantages, said J. E. Magoffin, Eastman Chemical Products, before annual convention of the Association of American Soap and Glycerine Producers.

In discussing what he termed a "new cycle in agriculture," Dr. Magoffin said the primary basis for using tallow and grease in feeds lies in the caloric value of these fatty materials. As we all know, the chief source of caloric energy in animal feeds in the past has been corn. Fats have 2.5 times the caloric energy of corn, he said, all of which is apparently available to the animal.

Thus grease at 7.5 cents per pound is equivalent to corn at 3 cents per pound or \$1.80 per bushel. It was easy to see, therefore, that fats represent an economical means of providing caloric energy to feeds.

The speaker called attention to an additional advantage of using fats in feeds, and which he deemed extremely important. This is the control of dustiness which the addition of fats to feeds provides. The dust problem in feed mills, in transportation, and at the user's establishment, has always been an annoying and troublesome one. The addition of as little as 1% of fat to feed completely eliminates the dust problem.

It may even be possible to ship such things as dehydrated alfalfa in bulk as a result of being able to control its dusti-

ness. There is an additional dividend received by the feed miller, and this is in the lubrication of his materials handling equipment. Suffice it to say, Dr. Magoffin continued, that all of the advantages accruing to the feed miller, and to the livestock and poultry raiser, are sufficient to have created a definite demand for fats to be added to animal and poultry feeds.

Meeting attendants were told that several large producers of feeds in this country are already adding animal fats to all of their production, and the speaker made the prediction that another year will see the vast majority of formulated animal and poultry feeds fortified with animal fats.

"This will put into operation a new cycle in our system of agriculture. Feeds are used to raise animals, which in turn are slaughtered and thus produce by-product fat. Some of the by-product fats go back into formulated feeds, which in turn produce more animals. This new cycle is going to have a very important effect on the stability of the tallow and grease market in the future, because it has a great deal of flexibility in it and can thus act as a balance wheel.

"In 1952 there were approximately 40 million tons of formulated animal and poultry feeds produced and consumed in the United States. At an average usage of 2% fat, which is the level being most widely used today, this amounts to a consumption of 800,000 tons of tallow and grease." According to Ray-

mond H. Ewell's article in *AG AND FOOD* (July 8, 1953), the estimated yearly surplus (production less domestic demand) for 1953 was 810 million pounds.

Thus, the surplus is quite readily consumed without any recourse to export at all, if only 50% of the formulated feeds are fortified with 2% fat. Now it is quite feasible and economical to use as much as 4% fat in animal feeds. This, of course, is predicated on the assumption that the fat price will remain something in the neighborhood of 5 to 8 cents per pound.

At this level of usage, the potential consumption in animal and poultry feeds could be as much as 1.6 million tons in one year's time. This, of course, is considerably greater than any foreseen surplus or even production of tallow and grease over our present uses. It could be approached only by the withdrawal of tallow and grease from other markets."

Other speakers at the AASGP meeting referred to the potential use of fats in animal feeds. There appear to be two important factors which will certainly influence the glycerol market, said E.G. McDonough, Evans Research and Development Corp. Large new uses for tallow in animal feeds will probably increase, he said. This may drive tallow prices out of the reach of the export market. The export market does increase glycerol output whereas the feed use loses glycerol completely, since the tallow is burned by the animals and not added to their recoverable body fat. The other and perhaps the greatest stabilizing influence on the glycerol market is the production of synthetic glycerol.

Another speaker, George Prichard of the association's bureau of raw materials, offered statistics showing a marked decline in the use of fats and oils by the soap industry, the development which explains the present plans to divert fats into animal feeds. Per capita consumption of fats and oils in soap reached a peak of 18 pounds in 1944; dropped to 10.6 pounds in 1951; 9.3 pounds in 1952; and to only 8.4 pounds in the first 10 months of 1953.

United States production of tallow and grease meanwhile has expanded while demand for soap has declined considerably. But exports are heavy and recently have been at a rate of 45% of production. They should continue, Mr. Prichard thought, at better than 1.1 billion pounds a year. Our tallow and grease, he said, have replaced to some extent coconut and palm oils in the European soap kettle.