There is no single simple solution to the problems brought on to the dairy farmer segment of the industry by the imitation milks, whether filled or synthetic. All of the following are involved: Legislation, regulation, pricing, marketing efficiency, production efficiency, promotion, and research and development. Mention will be made of all of these, but with emphasis on promotion and research and development, the areas of my employ.

One of the most disturbing things ever to hit the dairy farmer segment of the dairy industry has been the introduction of the two imitation milks, filled milk and the synthetic milk. It has hit all producer segments within the industry. Many fluid milk producers often expressed little concern over the problems butter, evap, and ice cream were having with substitutes. In fact, the imitation creams have hardly stirred up a rumble. Now the emergence of imitation milks has stirred up the fluid milk producers who fear they will lose their markets, and also the manufacturing milk element which fears the onslaught of surplus fluid milk as imitations gain and replace real milk.

What I say today assumes that imitation milk sales will grow. Otherwise there isn’t much to talk about on the topic. This, however, is not a prediction of any particular rate of growth, fast or slow.

The producer element of this sleeping giant, the milk industry, is aroused to action. Perhaps I should say aroused to reaction in response to an action. There will be reactions by the processor segment to the reactions of the producers. It isn’t just a producer problem now.

While American Dairy Association is not involved in any activity at the national level besides promotion and research, I assume from the topic assigned to me that other aspects of the problem are expected to be covered at least to some degree.

The legislative route has historically been a method wherein individuals with no market power as individuals, as farmers are, is put to use. The dairymen's role in the butter-oléo legislative battle has often been ridiculed as asinine. But I remind you that it worked for 2 generations and helped feed a lot of farm kids. It may have been relied upon a little too long and with a little too much security. Other competitive techniques could and should have been brought to bear on the problem as the power of the legislative technique diminished.
In the U. S. today filled milk is legal in only about a dozen states. Synthetic milk is not legal in about a dozen states. There is no reason for producers to go marching to their state legislatures and insisting on making them legal. To the contrary, there is some kind of a balance between efforts to keep the products illegal and the public relations losses in a fight over the issue. This is a matter of good judgement. I’m thinking of the producer point of view. So legislative activity is and will be involved.

Regulatory activity through definitions, grades, standards, and labels can be used to grease the skids or gum the skids for a product. My personal opinion is that the industry is not operating with as much intelligence as it should. For example, in California filled milk must be labeled imitation milk. In Arizona it can’t be labeled imitation milk. In New York it must be labeled Melloream. In Pennsylvania it must be labeled a non-dairy product. In some states synthetic milk must be labeled imitation milk. Some argue that it shouldn’t be labeled as such. Minimum standards for filled and synthetic milk may or may not exist, state by state. Some of the synthetic milks have been analyzed and shown that they have only 1/4 the calcium and 1/4 the protein of real whole milk. From a producer point of view, if the object is to gum the skids, it probably is best to have no minimum standards if there is plenty of promotion money behind real milk. Let the substitute be lousy; then try to kill it. If there is little promotion money, strict standards that enhance higher costs may be the best route.

Pricing has a role. But here the big game is not much different from roulette in Las Vegas. The game is: How long before technology can produce a synthetic milk that the market will tolerate and buy especially if it is encouraged by pricing? One year? Two years? Five years? Ten years? Another part of the game is that of satisfying, through government arbitration or industry compromise, the economic self-interests of geographic or product groups. A third part of the game is public relations, for every effort to gum the skids is subject to public scrutiny and reaction.

The pricing issue largely revolves about two things. First, the relative weights on the fats versus the nonfats portion, still giving the farmer as good a price for the two combined as now. Second, the distribution of income to producers geographically.

At the present time, quite generally around the nation, milk fat is priced at about 80 cents a pound, and it is this price whatever its use, fluid or manufactured. This is a direct function of the price support program and low shipping costs. In filled milk this 80-cent fat goes out and 20-cent vegetable fat comes in, a saving of nearly 10 cents a half gallon. How can producers discourage this? One way would be to cut milk fat prices, perhaps to as low as 20 cents a pound through the butterfat pricing in fluid milk markets. But this boosts the nonfat price in order to get the same weighted average price for the two combined. Now you ask: What is the technological elasticity with respect to price of the vegetable protein people?

When milk fat is 80 cents a pound whatever its use, wherever it is, the nonfat portion has to carry the quality and distance differentials. Grade A milk carries a quality premium, but surplus Grade A milk sells for Grade B prices. Class I prices increase nationwide as distances from Wisconsin increase. If Class I prices were $7.00 in Florida the nonfat price would be about 50 cents a pound dry equivalent in fluid skim. But handlers in Florida could buy nonfat dry skim for 25 cents a pound for filled milk. This is nearly another 10 cents a half-gallon on top of the nearly 10 cents by substituting vegetable fat. At this stage if carried to the end through substituting dry milk for filled milk in Texas. Some states may do this. You say today that it could happen. It may take a while.
substitution, Florida doesn't need the milk fat and they can get their nonfat dry milk from Wisconsin. Florida dairymen are liquidated. So are the ones in Texas, Alabama, Arizona, and maybe New England. How do you stop that? Some say: Don't stop it; let 'em go. The farmers themselves don't think so. The farmers in Wisconsin and Minnesota who produce nonfat dry milk might say to let the Florida guys go broke, except for the miserable prices that could exist all over while the Florida and other farmers liquidated, which may take so long that another problem arose before this was settled.

A solution, of course, is to raise the dry nonfat price to handlers in Florida by means of compensatory payment. The money is paid to local producers in Florida to keep them in business, unless, of course, the Wisconsin and Minnesota producers find a way to get the compensatory payment money back to them. Again, we liquidate the Florida producers. In the meantime, the Florida milk fat backs up and affects the manufacturing products, butter and cheese. The extent of the compensatory payment and its distribution is of utmost importance to all segments of the industry. It also bears on the technological elasticity of price for vegetable protein for synthetic milk as we mentioned before.

By extent of the compensatory payment I mean both its amount and its spread geographically. If it is zero (and it likely would be zero only if the compensatory payment were taken to court and thrown out), there would be essentially the same price for filled milk product cost all over the country. Three pounds of vegetable fat at 20 cents plus 9 pounds of nonfat dry milk at 25 cents equals $2.85 total. This would be tough competition in an area where Class 1 is $7.00. At the other extreme it would be possible to have a compensatory payment very high, such as the difference between Class 1 fluid skim and Class II fluid skim. Using Class 1 at $7.00, subtract $2.80 as the value of 3.5 pounds of fat, leaves $4.20 for skim in Class I. Using Class II at $4.28, subtract $2.80 as the value of 3.5 pounds of fat, leaves $1.48 for skim in Class II. $4.20 minus $1.48 equals $2.72 for a compensatory payment. In this manner local producers would hope to get the same for their milk if fluid skim or if nonfat dry milk were used in filled milk. Theoretically they could be getting $7.00 for their milk and not a drop of it go into the bottle. A slightly lower compensatory payment would result if it were computed as the difference between Class 1 skim and the value of nonfat dry milk actually used. Still lower compensatory payments would result from some arbitrary figure between the latter idea and none at all. On April 23 the hearing on these issues reconvened in Memphis.

The level of the compensatory payment will have repercussions on butter and cheese, but two big unknowns make prediction difficult. The first big unknown is the extent to which a high compensatory payment will speed technology for all synthetic milk. The second big unknown is the speed with which a low compensatory payment will cause liquidation of herds in markets distant from Wisconsin. If the producers hung on, even with lower prices, a lot of milk fat could pile up on the national market, and you know that butter and cheese are the tail end Charlies for surpluses. There are other unknowns, of course, and these include the many factors including price which affect consumers as they do or don't buy the imitations.

As you can see, the handling or price weights for the milk fat and nonfat portions can be a fluid milk phenomenon alone. On the other hand, there is the possibility of shifting these as a part of the total industry through the price support program. This too, is complicated. You can calculate that 40¢ fat and 40¢ nonfat will give producers about the same price as 80¢ fat
and 23¢ nonfat. But the nonfat producers ask what you are going to do with 40¢ nonfat when the commercial market won't take it at 20¢.

Besides the imitation milk problem there is another trend in the industry that affects the manufacturing milk business. This is the trend toward lower fat fluid items—lower fat whole milk, more skim items, less cream, etc.

We hear a great deal in the Midwest about the large amounts of butter and cheese produced in the North Atlantic area. The data I have shows that they have provided about 5 to 6% of the nation's milk going into manufactured products except frozen desserts the last 10 to 15 years. Also, in 1966 about 13% of their milk production went into manufactured products other than frozen desserts. It is interesting that the weighted average fat test for all fluid items has dropped 4 or 5 points in the last 10 to 15 years, or about 13%. If I have this figured right, the milk they now put into manufacturing is about equal to that available because of lower fat fluid milk and cream items. We haven't made such a big issue of this trend. The point I'm trying to make is that some seemingly unimportant happenings have caused us great anxiety really. Now enter imitation milks, and we'll likely have greater anxieties from the North Atlantic as well as elsewhere.

To now we've touched on three areas of activity involved in gumming the skids for imitation milks, legislation, regulation, and pricing. Our ag economist friends would have us mention marketing efficiency. It seems to me, though, that if filled milk is handled in the same distribution pattern as real milk, a gain in marketing efficiency will help each about equally. The question of synthetic milk and its distribution methods is something else perhaps. We'll have to see when someone produces a satisfactory product. But if the present fluid milk trade also handles the synthetic product, marketing efficiency will affect both about the same.

Now let's look at another activity which is related to the dairy industry's ability to compete against the substitutes and imitations. This is the area of research and development—finding new products, improving present products, and finding new uses for dairy products. In this area the dairy industry is accused of being decadent, unimaginative, non-progressive. We hear it in the dairy trade press; we hear it in the farm press; we hear it in the food distribution press. I hear it whenever I rub shoulders with people in other industries. This may be the most important technique for competing in today's economy, and the inference is that the dairy industry just isn't competing effectively in this area.

Whatever the reason, it is apparent from the data that we aren't aggressive. The National Commission on Food Marketing reports that eight large dairy companies, from National Dairy Products on down in size, in 1964 were putting only 0.1% of dairy sales into dairy product research. Research and development is generally conceived of as applicable to large companies. If they aren't doing it, who is? If we aggregated the entire dairy industry would it be 0.05% at the processor level? I saw an estimate of 0.04% the other day.

It is said that in some food industries about 1% of sales is going into R & D. That would be 20 times as much. One percent in our $12 billion dairy industry would be $120 million. I saw a guess of $5 million actual the other day, and how much of this is on imitation dairy products I wouldn't know. In the total economy business is putting 3% of sales into R & D. That would be $360 million for dairy. Some entire industries are putting over 5% into R & D.

One cannot help but conclude that R & D activity in the dairy industry is only
peanuts compared with what it ought to be to compete effectively.

I am asked continually what the dairy farmers might do themselves to compete against imitations and substitutes. My personal response is that, among other things, they ought to invest 1% of their income in R & D. Their $5.8 billion portion of the industry would yield at 1% $58 million yearly.

This recommendation has not been accepted yet, but I'll bet it will be within 5 years. However, these steps have been made. A poll of some of the leading cooperative managers in the country shows almost unanimous agreement that a producer supported multi-million dollar R & D program should get underway and ADA should be the organization to do it. An R & D Division was created in ADA in January. In March the delegates to the Annual Meeting approved the goal of $1 million expenditure in 1968, with a goal of $5 million yearly within a few years.

While some may scoff at the idea of farmers carrying on such an activity I see no reason why it can't be successful. Farmers run half billion dollar businesses and compete. We would have at our disposal the same commercial research firms that General Foods, Pillsbury, P & G, or others use, whether the research be in idea generation, concept testing, laboratory product development, sensory evaluation, home or industrial placement, and test marketing. We can contract with firms in the various research stages without the intracorporation persuasion and bickering that goes on in a company. It is inconceivable that a dairy company would not pick up and run with a product successfully tested marketed and with proven profit potential. We could go outside the dairy processor industry if a product were of greater potential outside the industry.

Two items of our operating procedures may be of interest. This R & D Division can seek and accept funds from organizations which are not dairy farmer organizations—whether they be dairy companies, farmer supply organizations, dairy suppliers, foundations, or you name it. Second, we will patent, register, license, or franchise when they are feasible and practicable.

The immediate object is the survival of the dairy farmer segment of the industry. But there can be no doubt but what this will contribute to the survival and growth of dairy companies, dairy suppliers, dairy farmer suppliers, the insurance industry, and many others including Labor if you please. We think all should get involved in this as they would gain from it.

Another area in my discussion today is promotion. The ADA Board has set a goal of 1% of dairy farmers' income for promotion. Again the object is survival; the immediate concern is imitations. These funds would be used both in promoting for real dairy products and promoting against imitations with the proper balance and method as our research would indicate as feasible and practicable.

The basis for the 1% figure is the milk promotion test done by ADA and USDA a couple of years ago. I still think this was one of the most sophisticated and realistic tests of the effectiveness of advertising ever done by anyone. In this study, done in 6 markets over a 2-year period, promotion at the rate of 15 cents per capita per year above the then current levels of promotion increased milk sales by 4.5% within a 1-year period. Producers got back $1.68 for each dollar invested, a net return of 68%. The 15-cent rate for 200 million people is $30 million. Add to this the then current collections of about $7 million is $37 million for fluid milk. The balance of the $58 million should arise from manufactured milk.
There is no a priori reason why manufactured milk products would not respond as well or better to promotion than fluid milk, yet our support from the fluid milk segment of the industry is much better than from the manufactured. This should be of concern to both segments of the industry.

When the manufacturing milk segment does not strongly support market building for their products the fluid milk segment is less anxious to support promotion of products made from surplus fluid milk. Instead they emphasize fluid milk promotion with the objective of shifting milk from Class II to Class I. Fluid milk people may carry a bias in the direction anyway, not recognizing as strongly as they should the importance of a strong manufacturing milk market as a basis for strong prices for fluid milk.

Here is some rather startling information: I was asked by one of our directors to compute how much milk would have to be shifted from Class II to Class I to get a 2% increase in blend price to cover the 1% for promotion plus 1% for R & D. Using Class I price of $6.45 and Class II price of $4.25 (which might be about the national level under the new support program) and 65% going into Class I, I computed that instead of 65% in Class I this would need to go to 70.5% in Class I. This is an increase of 8.5% in Class I sales to get a 2% increase in blend.

On the other hand, an 8.5% increase in sales of manufactured products might scare the hell out of the Secretary of Agriculture and his price support program and get much more than a 2% rise in all milk prices. Hindsight illustrates this. Between 1964 and 1967 the amount of milk available for factory production of products other than fluid items dropped by about 6%. This decline, as well as the current outlook, has resulted in present milk prices at the new support level 20 to 25% higher than in 1964, including blend prices in fluid markets. I assume that an increase in consumption would do as much for prices as a decrease in production. This illustrates the need for good markets for manufactured products, even for the fluid producer.

I come back to the point that producer support of the 1% level for promotion is in response to the growth of imitation and substitute products, and especially the introduction of imitation milk.

Your sessions today and tomorrow are heavily in the area of production at the farm level. You can rest assured that production efficiency at the farm level is an effective means for the animal industry to compete against the vegetable industry. It not only is vegetable fats against animal fats, but it may soon be vegetable proteins against animal proteins.

Thus I conclude that imitation milk, following on the footsteps of other substitutes, will cause actions and reactions in regard to legislation, regulation, pricing, research and development, promotion and production efficiency which will affect all of you in all segments of the industry. I repeat that what I have said is based on an assumption that imitation milk will move, and this is not a forecast on its rate of movement. If this all sounds like the farmers' point of view I think that's primarily where the action and reaction is, and therefore something to talk about.