The Milk Bottle Supply Situation*

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Your secretary has suggested that I talk to you on a subject vital at this time to the whole dairy industry—the milk suppliers, distributors and customers, as well as yourselves. The subject is the present supply situation with regard to milk bottles.

Normally, such a subject would not have sufficient news interest to be worth while as a topic. Even during the tremendous supply dislocations of the war, it might have been taken for granted that the milk bottle supply would be adequate. In view of the difficulties and the unprecedented demands on the glass container industry in the last six years, I feel that the milk bottle manufacturers have every reason to be proud of their record of service to the dairy industry. No other industry has been so fully and so steadily supplied with glass containers as the dairy industry.

At the present time, with milk bottle manufacturers operating at full capacity, the supply may be described as "tight", and even critical. Only in one area is there a serious shortage of containers and there, it is generally admitted, other factors are at work beyond the responsibility of the milk bottle suppliers.

Before analyzing the present supply outlook for milk bottles in detail, let me review briefly the record since 1940. Some of our experiences in this period serve as an instructive background for the current situation. Bear in mind that the milk bottle industry must be prepared to deliver a considerable normal annual volume of containers for replacement, and that when an increase in milk consumption develops, approximately eight bottles are required initially to service each unit delivered. In periods of increasing milk consumption, in other words, milk bottle manufacturers must supply the normal grossage for replacements and in addition approximately eight times the unit value of the increase.

For the five years preceding 1941 the milk bottle industry shipped an annual average of slightly under 2 1/2 million gross a year. In 1941, with the boom in war industries and the beginning of concentrations of men in training camps, shipments suddenly jumped 30 percent to 3 1/4 million gross. In the following year they increased further to 3 1/2 million gross. After that they steadily declined for two years. This slackening in the requirement occurred mainly for these reasons. The "float" of bottles—that is, the eight required to service each unit delivered—had temporarily caught up with the increases in milk consumption wherever those increases had taken place. Men were moving rapidly overseas and others were being taken from cities and villages into training camps already well supplied with bottles. Moreover, in the fall of 1942 limitation orders were issued by WPB—Order No. 10 requiring a deposit on all bottles—and Order No. 79 restricting the distribution of cream and limiting the amount of fluid milk that could be sold in areas of 50,000 population or more. The deposit order stimulated the return of bottles with the result that dairies generally were securing greater trippage from their bottles.

Late in 1944 the demand for maximum milk bottle production reappeared and has remained ever since. During 1944 the dairy industry could have had a half million more gross if it had asked for them. While the glass industry foresaw the later demand and made timely preparations, it
could not have laid by a stock of any considerable size because the clamor for other types of bottles was too great, if for no other reason. Since the late months of 1944, milk bottle manufacturers have operated their machines as fully as the supply of raw materials would let them.

As a result of their efforts, shipments of milk bottles for the first eight months of 1946 are 60.5 per cent greater than for the first eight months of 1940. They are nearly 9 percent ahead of even the similar period of 1945.

The continued rapid increase in milk consumption is one reason for the "tight" supply of milk bottles. The return of our military forces, the large number of new households, the shortages of other foods, and similar factors have combined to create a continuously rising demand for milk. The increase has been so rapid that the "float" of bottles has had no opportunity to quite catch up to milk distributors' requirements. Once the "float" is adequate, the situation is eased; the milk bottle, being a multiple-trip container, needs only to be replaced after its service life of thirty or forty trips or more.

But an increase in business volume is as much a goal of the dairy industry as of the glass industry. The dairyman wants to know why the glass bottle has trouble in keeping his pace.

If the supply of milk bottles is something less than could be desired, the causes lie beyond the power of the glass industry to correct. In the first place, there is a serious shortage of soda ash, one of the requisite raw materials for glass. Authorities estimate that soda ash production this year will be about 10 percent, or 500,000 tons, short of expected demand. There is no total, reasonable substitute for soda ash in making glass; and, unfortunately, there is no substitute for soda ash in making aluminum, soap, paper, cleansers, detergents, and hundreds of other products. We are all on a quota basis, so that each industry receives its share, but the supply is limited.

A further curtailment in soda ash supply has recently resulted from the opening of new aluminum manufacturing facilities, and it is probable that our industry will not be able to maintain its present rate of production. Since soda ash production requires elaborate and expensive processes, it is not likely that this situation will clear up for at least another year.

Further, the shortage of box cars has had the effect of holding down shipments. Earlier in the year, the coal and railroad strikes handicapped our performance. In view of these difficulties, our 60.5 percent increase in shipments as compared with 1940 is an achievement.

With these production problems making the supply of milk bottles critical throughout the country, in the New York City metropolitan area the situation is especially so, and there, as in other areas, the milk bottle manufacturers have been absolved. A recent survey of urban milk markets showed that elsewhere, while additional milk bottle supplies could be used to advantage, the continued rise in milk distribution was not being impaired to any great extent.

Another subject your Secretary expressed interest in is—future trends in the design of milk bottles. As to this matter, I can say emphatically that the square design, development of which started prior to the war, has proven to be the ideal dairy container. While improvement in glass manufacturing technic may result in still further improved designing, the square bottle is here to stay.

It should be pointed out here that the extent that this new bottle has been introduced into use, has been a factor in increasing the milk bottle supply. Since there is no individual blown lettering on these bottles, they can be turned out in long production runs; and the inventory problem, often a complex one with round, blown-
lettered bottles, is simplified. Still another advantage must thus be scored to the credit of the square type of bottle, which the glass industry, and that part of the dairy industry which has adopted it, are confident will be the milk bottle of the future.

Those dairies which have adopted the new bottle are obtaining the economies predicted for it. Indeed, wherever it has been possible to install the new design, the saving it has effected in greater utilization of equipment and storage and delivery space has been as important as the overall economy of approximately $1 per delivered unit resulting from its use. Since a case of round bottles takes up $47\frac{1}{2}$ percent more area than a case of squares, a dairy can do almost half again as much business with the same storage and cooler space. Moreover, the space-saving feature is a tremendous advantage in the delivery operation, and becomes a very important factor in the loads carried on every-other-day deliveries. The carrying capacity of present-day trucks can be increased with very minor adjustments by as much as 50 percent. The storage advantage of square bottles is also of importance to the consumer, especially when she is served by every-other-day deliveries.

As milk sanitarians, you will be interested in a cleansing test on square bottles performed under average dairy conditions by Professors L. H. Burgwald and T. V. Armstrong of Ohio State University. Since the square design is new, some doubt arose in the minds of a few dairymen lest it would not wash as easily and thoroughly as the old round bottle. Actually, the inner corners of the square design have curving radii, so that it approximates the interior of the round bottle; moreover, it was anticipated by the designers of the square bottle that the flattened panels would act as a baffle in the washing process, breaking up the swirl, increasing the splashing action and therefore the effectiveness of the cleansing.

To resolve all doubt, Professors Burgwald and Armstrong took batches of a dozen square and a dozen round bottles at intervals from seven types of washers in use in an average size city. Following standard testing procedures, bacteria counts were made for each of nearly a thousand bottles, half of them square and half of them round, brought to the laboratory over a period of three months. Their conclusion was that “there is no difference in the commercial practicability of cleansing and sterilizing the returnable square milk bottle and the conventional round bottle in the typical dairy soaker equipment”.

I have attempted in this short talk to acquaint you with the facts of the current milk bottle supply situation... In spite of shortages of soda ash and other materials and services, the glass container industry is now producing at a rate 60 percent greater than it was in 1940, but it is doubtful if this rate can be maintained under present conditions. Where container shortages threaten to become more acute experience proves that dairymen have a means for helping themselves. In many such markets campaigns urging consumers to return their bottles promptly have been instituted with excellent results. To achieve the best results such campaigns should cover the entire market with all units cooperating. That real possibilities for greater utilization of the glass milk bottle exist in many markets is indicated by the contrast in trippage figures.

Glass milk bottle manufacturers have accepted as a responsibility the furnishing of these containers for the great mass of consumers, and will continue, as in the past, to give their best in design and production to this objective, but it should be realized that the present conditions, outlined above, are real handicaps and that every reasonable cooperation from the dairies and the public is needed.