

ECONOMICS OF FARM TANK AND BULK COLLECTION PROGRAM

C. B. A. BRYANT

Field Sales Manager, Filter Products Division—Johnson and Johnson
Chicago, Illinois

New developments in our national life must be governed by their utility, effectiveness, and economic feasibility. The recent introduction of the tank pick-up of milk at the farm is indicating economic advantage to producers, plant operators, and indicatively to consumers.

All great advancements during their growth were governed, in addition to their service and their usefulness, by their economics, their worth, and their savings for the masses. In our American history, outstanding developments of articles of great service to our people accompanied the entrance of a new PRESIDENT to his role of office. These were:

First: A government stock issue of \$80,000,000 by George Washington, to help pay for the Revolutionary War. Twenty-four brokers decided to meet daily in Wall Street, to establish a market. So began the New York Stock Exchange.

Second: Nature forgot to put RIVERS where business needed them, so by 1821, under President Monroe, Americans were busy digging canals. America was stretching out.

Third: "Fire Belching Demons" were chugging on U. S. rails in 1831. President Jackson's term saw the first train moved by locomotive. Townspeople gaped.

Fourth: "Number, please"—1875, President Grant's second term. People could not decide if Bell's telephone was a toy or a useful instrument. Today we have 47,400,000 telephones.

Fifth: "Sit in the DARK—In a crowd? NEVER." People were afraid to watch in 1905 early motion pictures—when Grover Cleveland was president. But inventors were not afraid to risk their money in this new venture.

Sixth: "Guaranteed to TRAVEL 15 MILES per HOUR." 1900—William McKinley is president. Only 8,000 brave men in the United States had registered automobiles. Now over 40,000,000 automobiles are registered and 1,600,000 people have jobs in this industry.

We now add a Seventh: 1953—

Dwight Eisenhower is our president. "The Bulk Farm Tank and Tank Truck Pick Up for Milk" is with us at the bottom perhaps for a momentous climb. Here is the wide opening up of another great, useful era. Economics is the driving force. Many leaders say it will be to the nation as great an advancement as these others herewith related. WHY? The value seems to be, first, to the quality of the product, and second, the economics are declared to be of equal value to the farmer and to the milk handler or processor. Perhaps first in its individual establishment to the farmer and then to the milk plant. It has been my observations that of the multitude of these present operations extending now into almost every dairy state, none have stood still nor gone backward; all seemingly are answering their newly raised problems and are going forward daily in their growth. The now established economic factors plus the learning by doing are surely the driving forces.

Neither I personally, nor to my knowledge does my company with whom I am employed, have one penny invested in the manufacture of or in the distribution of any farm tank. As a curious individual and an amateur color moving picture enthusiast I have visited well over 250 farms with farm bulk tanks in all sections of these United States and have filmed with color movies—edited and prepared for narration—these operations at some 26 different locations in 14 states. I have kept my ears open to hear, and my eyes open and alert to see.

Therefore my discourse on this subject must be not that of a doer but of a listener and a keen observer, rated above the average! Be at ease as to the purpose.

Early in life I well learned that all bills had to be paid. Where we feel it to be proper and a direct value to the system, a familiar product is introduced. Many very able persons who have actually installed and are operating these routes and milk plants are best qualified to give figures and de-



Born and reared on a Michigan farm, and educated in high school and junior college Mr. C. B. A. ("Bill") Bryant promoted power farming equipment, and sold the first Fordson tractor to a farmer in the United States. Entering employment by Johnson & Johnson, he became field sales manager of their Filter Products Division, introducing the use of a cotton filter disk at the farm level. He has written, published, and lectured extensively all over the United States.

tails of the economics. They are all enthusiastically giving generously of their time to share their experiences with their brothers of our great industry. I must give you an over-all view. I literally take it from them—having gathered data as I circulated about our fine nation.

ECONOMIES TO THE PUBLIC

In the final analysis, this is the party which pays the bill. Quality of milk is perhaps more uniformly maintained, and in terms of flavor and palatability, made more desirable as a beverage and food. The leaders who are doing it say that in time the costs of production and handling may have a final price recognition to the consumer.

ECONOMIES TO THE PRODUCER

Here I quote from Mr. A. C. Fisher, General Ice Cream Corporation, Schenectady, N. Y., who was perhaps the first to establish this system some five years ago, outside of California and Florida at Hartford, Connecticut, for Bryant-Chapman with Mr. Emerson Sartain, who now is operating and en-

larging the routes. Consideration here is given for producers of 150 gallons to 600 gallons per day pick up. "At the present time the average investment for a tank of 200-gallon capacity is about \$2,300 completely equipped and installed. On a 100-gallon tank we believe that this cost will be between \$1,500 and \$1,600. This is a substantial investment and obviously the larger the production the less amount per can that has to be invested. However, if we compare this investment with other pieces of equipment that are found on the average farm today, we definitely feel that a return on the investment in the tank is equal to or more than on the investment of a comparable amount in other labor-saving devices and, in addition, improves the quality of the farm's principal cash crop."

I further quote from Mr. Fisher—from *The Milk Dealer*, January 1953, On Economics: "Among the definite ones are the savings in butterfat, in volume (weights), and in can expense. They amounted to an estimated saving of 4 cents per hundredweight for volume, 4 cents per hundredweight for butterfat, and 2 cents per can expense, making a total saving to the producer of 10 cents per hundredweight plus any additional savings that could be passed on to the producer in the form of decreasing hauling rates which we fully expect can be a minimum of 5 cents per hundredweight, and probably a few cents more, depending upon the route and if and when every other day milk collection becomes the standardized practice."

Further on the farmer's side of economics, I quote from Mr. Charles A. Shuler, Saginaw Dairy field supervisor, Saginaw, Michigan, printed in the *Saginaw News*, Farm page, Dec. 17, 1952: "Present milk-handling methods are unsanitary, time consuming, and otherwise inefficient when compared with bulk handling methods, since the new method is a step toward streamlining the whole operation." "Milk tends to cling to the tin-lined 10-gallon cans now in use, but the stainless steel storage tank 'sheds' all the milk it contains and this results in a saving on waste. Where bulk tanks are in use they have saved 13 cents on each 100 pounds

of milk taken from the cow. This means that if a farmer's cows produce 500 pounds of milk a day, his daily saving is 65 cents." He goes on to say: "It also makes it possible for the farmer to sell his milk before it leaves the farm because it is measured and tested for butterfat before it is hauled away. These tests are made under the farmer's eyes, as are also the sediment tests drawn, one pint from off the bottom of the tank. He does not have to trust the dairy's figures."

Now the question is asked—What about the small producer? I again quote from authorities. First, Mr. H. Clifford Goslee, Commissioner of Dairying, State of Connecticut, stated in a paper presented at the Dairy Plant Operators and Milk Distributors meeting, University of Vermont, Oct. 22 and 23, 1952, Will Bulk Tank Farm Pick Up Eliminate the 40-quart Can?: "A real attempt will be made to discuss the question from the position of the control official. . . . The answer is Yes, with qualifications. . . . The ultimate elimination of the 40-quart can will be dependent upon the degree of compliance with regulations, and increased profits (or saving in production costs) for the producer."

Now I return to Mr. A. C. Fisher on this subject and quote from same article as previously mentioned: "We expect to supply the one and two can producers, located in an area where tank pick-up is to become the rule rather than the exception, with stainless steel 40-quart cans which they will use in their regular can cooler as they have been doing at present. On the days of pick-up at the farm of their neighbor who owns a tank, they will transport their milk to that neighbor's milk house where it will be measured and sampled in the tank by the truck driver after picking up the tank's original contents. This plan could also be put into effect in the case of a producer situated so as to be inaccessible to the tank truck. This contemplated action has the tentative approval of our State Authorities in Connecticut, and may or may not be an answer for small producers. Only a trial will tell us."

On this farm level the filter medium in the milk strainer placed upon the opening for it in the cover

of the bulk tank, or in the line—where the pipe-line system is used—becomes a most important part of the equipment. Every drop of milk in the bulk tank must be of the same high quality—free of sediment. Proper preparing of the cows for milking is a must. The used "fibre bonded" filter medium mounted indicated the thoroughness of the washing of the cows' teats and udders. When clean as it should be it is the dairyman's "Badge of Merit."

ECONOMIES TO THE MILK ORGANIZATION

Now we turn to the economies of the milk organization. I again refer to Mr. A. C. Fisher's statements in the same article of earlier quotes. Many others have related their similar experiences but I have not seen them in print. "We do not believe that milk plants will make any substantial savings through this operation until all 40-quart cans are eliminated in the individual plant. Before this time and during dual operation, there will be some plant savings, however, in case it is currently necessary to cool incoming milk prior to its pasteurization; and also there will be some saving in out-of-pocket expense, particularly where the receiving of milk is presently done on an overtime basis."

I have heard officials of large milk organizations speak of the savings when complete turnover is ever experienced in cleaning and sterilizing needs, and the elimination of receiving room as now known. Mr. Fisher, to quote again, concludes: "From our four years of experience, however, we know that it is sound economically and from a quality standpoint, and we know that further refinements will further help to expand this type of operation."

In an article in *Southern Dairy Products Journal*, February 1953, Mr. A. A. McArthur, states on the Economics of the Bulk Farm Tank System for the Milk Plant: "Reduces the amount of refrigeration required at the plant due to the fact that milk is received cold and can be pumped direct to storage tanks. (No milk cans to buy, rent, or sell.) Plants having all farm tanks can eliminate the receiving room—its equipment its labor,

cleaning materials, and upkeep This can amount to from 8 to 20 cents per 100 pounds of milk received. The farm tanks seem to make the problem so much easier that in a large portion of the cases we find the producers increasing their herds, thus making the plant's procurement problems easier." I add here my own observations. Many of the 250 farms I have visited have young men personnel—many father and son combinations. It would seem this may be making the farm quite attractive for youth.

TREND TO TANK PICK-UP

We are finding many smaller milk companies quickly going 100 percent to this operation. We know of one at Reading, Penn., one at Lancaster, Ohio, one in Washington, D. C., one in Wisconsin, and one in Iowa. Another in Connecticut and Vermont. In February, at a meeting we addressed, a milk operator at Wilmington, Delaware, announced that he sent notice to all of his producers that by June 1st, 1953, his way of receiving milk would be by farm tank truck pick-up and all producers would need to have a bulk farm tank.

A letter to me dated January 26, 1953, from my good friend J. M. Covert, Director of Milk and Dairy Inspection Division, Department of Health, Los Angeles, California: "The Los Angeles area is now 100 percent farm tank operation and the program is going nicely. . . New ideas are constantly being reviewed to improve this project."

The states of Washington, Oregon, Wisconsin, Maryland, Connecticut, and perhaps others have published regulations for farm bulk tanks. The 3A Standards Committee of our industry have given serious, thoughtful attention to the subject. The United States Department of Weights and Measures under date of February 20, 1953, has published a proposed tentative code for farm milk tanks.

Our Universities have published data relating to hauling costs and detailed costs in different specific installations. To my notice has come work by Arthur H. Miller (February 6, 1953), Department of Agricultural Economics, University of Wisconsin: "Some Tables Relating to Milk Hauling Costs In Cans and in Bulk." There is also available a paper by Glen I. Nelson, Department of Agricultural Economics,

titled: "Economic Aspects of Farm Tank Handling of Milk in Oregon" (February 1953) University of Oregon, Corvallis, Oregon.

So all of this goes merrily on, each day gaining momentum. As far back as a year ago, late in 1951, audiences listened as I presented (at their requests) this subject with my amateur color "Travelogue" films with the attitude this is interesting to know, but it will not happen here. Now they listen with hunger to see and know what their close neighbors may be doing.

REPORT OF THE COMMITTEE ON MEMBERSHIP

The problem of stimulating membership in a specialized organization resolves to one of providing service to its membership and the development of consanguinity in the effort of its members. Mr. H. L. Thomasson, Executive Secretary, has successfully endeavored during the past year to bring this concept to the membership by visits to state organizations and reporting the human interests of our organization in the Journal.

It has been suggested by several members of this Committee that the services of our organization might be extended. The preparation and publication of a speaker's bureau which may be used by various organizations such as dairy technology societies and others, for the selection of speakers would be a decided help in furthering the aims of our organization. It is further suggested that subscriptions to the *Journal of Milk and Food Technology* be placed in agricultural high schools and colleges in the United States, Puerto Rico, Canada, and selected South American countries.

It is the observation of the Committee that our affiliate associations do not have a strong active membership organization, with a few exceptions noted. It is suggested that the Membership Committee of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS should establish a procedure for affiliate organizations to follow and to offer goals which may be met.

*Presented at the 40th Annual Meeting, INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS, INC., East Lansing, Mich., Sept. 1-3, 1953.

Our Committee member from Idaho reports that the sanitarians from his State have voted to form an affiliate of the I.A.M. & F.S. to be acted upon in final form at their meeting in December, 1953.

During the year a brochure was prepared by Mr. Thomasson and distributed in very limited quantities to the committee members. This leaflet set forth the aims of the organization and contained a membership blank. It has been well received.

The membership status of the organization as of July 29, 1953, is as follows:

Paid up affiliate members	2,821
Paid up direct members	721
No. unpaid members	0
Total	3,542

This represents an increase of over 300. During 1953, six organizations have become new affiliates, making a total of twenty-five affiliate organizations. These organizations are:

Dairy Sanitarians Association of the Del-Mar-Va Peninsula

Oregon Association of Milk Sanitarians

Kentucky Association of Milk and Food Sanitarians

Georgia Chapter of the INTERNATIONAL ASSOCIATION OF MILK AND FOOD SANITARIANS

Arizona Association of Milk and Food Sanitarians

Association of American Indian Sanitarians

H. E. Eagan, *Chairman*

J. E. Dolan

M. J. Doter

John H. Fritz

H. Clifford Goslee

C. J. Johns

James A. King

C. K. Luchterhand

Emil Mikolajcik

James M. Nakahara

Kenneth L. Pool

Darold W. Taylor

H. L. Templeton

L. O. Tucker

K. G. Weckel