

Co-operation in Denmark

II--The Creameries--How Capital is Raised--Raising and maintaining Butter standards

By L. Smith-Gordon and Cruise O'Brien

We have already discussed in a previous article the condition into which agriculture in Denmark had fallen in the period immediately preceding the eighties. It is difficult to realize now that in this period and well into the eighties Danish livestock was wholly neglected and Danish butter of a quality so inferior that it was found necessary to use a false trade description when exporting the good butter produced on Danish land-owners' home farms. That Denmark now ranks as perhaps the foremost producer of breakfast table commodities in the world is due to the fact that the Danes faced the problem which was before them with a thoroughness characteristic of them, and that they applied to its solution the method best calculated to serve their purpose, the method of co-operation.

In transforming their agricultural industry the Danes had to deal with two questions. They had to ensure that their butter was produced under the most up-to-date conditions and that their dairy herds which supplied the milk for their butter-making should be of a good milking strain. As it was, their cows were poorly fed and gave a small yield of milk and that of a poor quality. The Danes had the wisdom not always found in other countries, to take the two problems, the improvement of the milk and the improvement of the butter, side by side. It might indeed be said that for every improvement in butter-making there has been in Denmark a corresponding improvement in livestock.

It is outside our scope in dealing with co-operative creameries to sketch in detail the progress made in ensuring to Denmark a number of dairy cows which cannot be surpassed anywhere. It is sufficient to say that by keeping milk records, by good farm accountancy, by eliminating gradually all bulls which were merely low grade animals, the Danish dairy cattle are now nearly all pure bred. In 1914 of the total number of cattle in Denmark there were 1,310,268, or 53 per cent. cows which had calved for the first time.

Rapidity of Co-operative Development

Before the formation of co-operative creameries proper, there were some quasi-co-operative experiments in butter-making which are of historical interest. In order to secure a better made under better conditions than that produced on a small farm, several "dairies in common" as they were called were established. These were founded by groups of people who combined to buy machinery and to make butter but who did not themselves supply the milk. The suppliers, in some instances deserted them after a while, in others there was a lack of capital and for one reason or another each of these ventures in turn failed.

Two years after the beginning of these experiments, in 1882, the first co-operative creamery was founded by M. Stiller Andersen. From that time on the creamery movement developed with surprising rapidity. Ten years after the foundation of the first creamery there were no less than 800 in Denmark. In 1914 there were 1,190. A remarkable influence on the movement was exerted by the scientific men who devoted much energy and learning to make the creameries thoroughly efficient in modern methods. Two of these, Professor Sørensen and Professor Eyd, both on the staff of the Royal Veterinary School, deserve special commendation. Their experiments carried out on large farms in close touch with agricultural organizations had a large share in making co-operative butter-making so successful and efficient as it is. Nor were the farmers lacking in a desire to help on their work. Many farmers placed their farms at the disposal of these scientists that they might carry out their experiments without cost. Nothing could have been more helpful at the beginning of the co-operative movement in Denmark than this joint working of the theoretical and the practical men, the scientists setting themselves to solve the problems of the practical men, and the practical men putting into operation the results of their research. It is probably in a large measure due to the knowledge gained by the farmers in this critical time that agricultural education and technical instruction in dairying occupy so large a part as they do in the rural life of Denmark. We shall have occasion to refer to this subject again.

How Capital is Raised

In Denmark, the co-operative creameries are not capitalized in the same manner as in Ireland. The members do not take "shares" in the undertaking as we understand shares. They assume a joint and several liability for their initial capital for a fixed period and

on the security of this they obtain a loan at a favorable rate of interest. The working capital is provided by making a small fixed charge for the separated milk which is returned to the members. This charge is deducted each month from the milk checks. In addition to this source of revenue for working capital additional funds are provided by the entrance fees and subscriptions levied on members joining after the foundation of the society. This system is an equitable one, for although on the one hand it is an essential principle of co-operation that membership should remain open, it would obviously be unfair that original members should sustain the burden of a greater liability than new ones.

The period for which a society is founded is generally from 10 to 15 years. Within that time the borrowed capital is to be paid off out of profits and at the expiration of the period the society may start again as a new society with the same members or other members as the case may be. But within the period for which a society is registered any person who is a member is liable for his share of the joint and several guarantee in proportion to the number of cows he has. If he desires to withdraw during that time he may compound for his liability by a payment of so many kroner for each cow, diminishing according to the number of years he has been in the society. For example, suppose he desires to withdraw during the first year he may have to pay about \$5.00 per cow, in the next year he will pay 50 cents less and so on. At the end of the period if he wishes to withdraw, the creamery will pay him his share as determined by the general meeting. Members who withdraw at any time cease of course to have rights in the society.

The rules of the Danish creameries provide on the

which is the Danish Farmers' Co-operative Purchasing Association which acts as a wholesale, and the General Organization of Danish Dairy Societies which acts as a central advisory union for the local federations. In addition to these centrals the creamery managers have a union of their own called the Association of Technical Dairy Managers. This body, which federates the managers and their staffs, is organized in provincial sections and collaborates from time to time with the other centrals. The Danish creameries are not, however, content with having federations of these types, only they realized that their export trade depended greatly on an intelligence system and this aspect of their organization has been developed with their characteristic thoroughness. Thus there is a bureau for the preparation of statistics relating not only to prices, but to costs of production. This department works in close touch with the local federations and its chief aim is to see that Danish butter is maintained at a high competitive level. In more close connection with their export business is the wholesale butter organization committee, whose work consists in keeping the creameries informed as to the prices English merchants are offering and to compile a price list based on them. Finally, there is an association which acts as a large friendly society for the employees of the creameries, and since 1898 when compulsory accident insurance was abandoned in Denmark as an insurance society. In it over thirteen hundred dairies are represented.

Nor is there wanting a bond between the creameries and the other co-operative authorities of Denmark. The creameries through their federations have representation on the central co-operative committee of Denmark which unites all the co-operative undertakings of the country for the purpose of united action in cases of common interest to the whole movement.

How Danish Butter was Improved

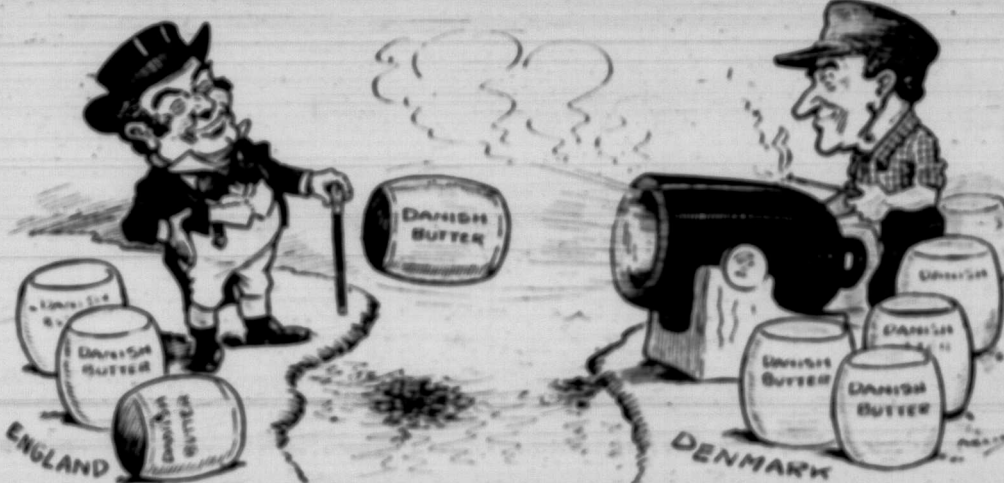
The history of the standardization of Danish butter is of peculiar interest, not only as showing the thoroughness with which the Danish dairy farmers organized their export trade, but as affording an instance of the results which come from a combination of the work of voluntary agencies supplemented by the encouragement and authorization of the state.

As early as 1889, the Royal Veterinary and Agricultural College inaugurated butter shows in its experimental laboratory, inviting creameries to send in specimens of their produce for grading and testing. In the beginning these shows had not the object which they afterwards

attained, but they are of great service to dairy managers in giving them a knowledge of butter produce. The butter was judged by a rota of dairy managers under the guidance of experienced specialists. The dairy managers not only improved in their technical work as a result of these shows, but creameries in increasing numbers exhibited their produce. In connection with the shows, lectures were delivered on technical matters connected with butter-making, the results of experiments conducted in the laboratory were given, and discussions took place on the various questions of interest to the dairy managers.

As time went on and the creamery managers grew more and more expert in their business, the need for providing a standard article of uniform quality began to be felt. In 1891, the creameries were almost all convinced of the advantage of pasteurizing their cream, and within a few years of that date the majority of them were employing the process. In 1898, the states made pasteurization of separated milk and buttermilk compulsory and in 1904 it was made obligatory to pasteurize the cream from which butter for export was made. It is interesting to note that in this instance the law did not anticipate the action of the majority of the creameries, but merely gave legislative sanction and endorsement to what they themselves had resolved on. It was so too with the national trade mark for export butter. In 1900, the Co-operative Creameries Association organized a body styled the Danish Butter Brand Association for the purpose of adopting a trade mark to be registered both in Denmark and in Great Britain—Denmark's chief market—as a guarantee to the consumer that the butter sold under the trade mark was high grade Danish butter. The association registered as its trade mark a device consisting of four interlaced cattle horns with the words Danish butter through the

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THE GREAT BULK OF DANISH BUTTER IS EXPORTED TO GREAT BRITAIN

whole for the same method of working as the Irish creameries. The members bind themselves under a binding rule to supply all the milk of all their cows save that amount required for household purposes to the creamery. The milk is paid for on the basis of the amount of butter fat it contains, and payments are made monthly with a deduction as noted above for separated milk returned. This charge is a small one, that generally made is about sevenpence for 32 pounds of separated milk. The separated milk is used for feeding pigs and the value of the co-operative movement in fostering this important industry can be estimated from the fact that whereas in 1890, when the experiment of the "tælles-møjerier" or dairies worked in common was being tried, there were not enough pigs to consume the separated milk of these dairies, now we find that in 1914 there were 2,844,097 pigs slaughtered in Denmark, 93 per cent. of which were classed as A1, and 86 per cent. of which were slaughtered by co-operative slaughterers, the whole representing an aggregate profit to farmers of \$18,664,800.

Creameries Linked Up in Federations

The Danish creameries are grouped not in one federation like the Irish, but in several. At first sight there might seem a certain weakness in having a number of federations, but in reality the difficulty is got over by the federations being in close touch with each other and being linked together by a common service of information on dairy matters. In 1915 the number of creamery federations was 20 with 709 affiliated creameries. The advantage claimed for this multiple method is that the creameries in a given area can get better service from a local federation in some matters than a very much larger body covering a much wider area could give them, while by having various central unions for technical and statistical purposes they can get all the real benefits of a large central. In addition to these smaller federations there are large federations of great importance, the most highly developed of