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SOME RECENT DANISH PROBLEMS IN AGRICULTURAL ECONOMICS

EINAR JENSEN
ROYAL AGRICULTURAL COLLEGE, COPENHAGEN, DENMARK

DENMARK has so often been cited to farmers of other countries as an example of a country where rural organization has been successfully carried out, that it might be assumed that all of the economic problems of Danish agriculture had been satisfactorily solved long ago. It is not necessary to say to an audience such as the present that this is not the case, and furthermore that it is not likely to be the case in Denmark or in any other important agricultural country which has taken its place in the great common household of the world. Business in the industrial areas which Denmark provides with food products may become depressed; a wave of protectionism may put great obstacles to recovery in the way and decrease the ability of the industrial population to buy freely food products, in the production of which, this agricultural country specializes. Improved transportation facilities and improved technique in production may make it possible to develop new areas and to rapidly increase the supply of agricultural products. New methods may be introduced into older regions, establishing production on a considerably different basis. The result is the same. The economic system is thrown out of equilibrium and often comes to rest only after considerable change has taken place, and frequently comes to rest on new levels of production and prices.

Such are the economic conditions under which production is carried on in regions of commercialized agriculture such as Denmark. Great benefits are to be derived from world-wide specialization in production. Specialization is, however, constantly opposed by local or sectional interests seeking to put obstacles in the way of its development. The disadvantages of specialization lie in the susceptibility of each specialized area to the effects of changes in other areas. Specialization carries with it the necessity of constantly making new adjustments to changing "economic weather," so to speak. Such adjustments must be made as rapidly and as effectively as possible in order to fully utilize the opportunities offered and often, in the case of farmers who are farming at the time such changes occur, to prevent bankruptcy.

In these basic facts are to be found the need for the development of the economics of agriculture, the need for the teaching of economic principles as they apply to agriculture, and the need for carrying out research work, in order that we may have a thorough understanding at all times of what is really going on, and how, at any time, to make the best possible adjustment to changing conditions. The present paper will indicate a few of the problems which Danish farmers are faced with, and will discuss, briefly, some of the methods used in their analysis.

Denmark is an example of a country which has a commercialized system of agricultural production. While Denmark does not specialize in the production of a single product, she does have a specialized system of production with butter and bacon as the principal products, and with beef—which is an important item—eggs, beet sugar, and seeds as secondary products. Recent developments in Danish agriculture have been in the direction of still more pronounced specialization along these lines—lines which have been followed by Danish farmers since the seventies. Nevertheless, there are some important problems to be solved at the present time in adjusting production to meet changed conditions. Before proceeding to a discussion of these problems, it may be well to make a few remarks regarding the natural basis of Danish agriculture.

Denmark is a small country with an area of only a little over 10.5 million acres. It is made up of the Jutland peninsula and a few large, and many small islands in the waters between the North Sea and the Baltic. The straits between the islands, and between the islands and the peninsula, form the inlet to the Baltic.

It is all lowland, on the fringe of the North-European plain, but nevertheless there are within its boundaries important differences both in soil and climate. In the central and western parts of the peninsula there are large areas of glacial outwash plains where the soils, which are light and sandy, are often rather poor. Even the best of these soils have only been brought under cultivation within the past 50 to 75 years. The soils of the eastern part of the peninsula and of the islands, have been cultivated for many centuries. They are very good fertile soils, and have always been the basis of the country's economy.

Denmark has an enormous coast line with numerous fjords extending deep into the country, providing good harbors. No part

of the country is more than 30 miles from the ocean, and most parts are less than that distance.

In the western part of the country near the North Sea, the climate is somewhat more raw, windy, and moist, than is the case in the eastern part of Jutland and on the islands. The eastern part of Denmark has always been the grain producing area of the country, while the western part has been largely given over to the production of pasturage for livestock. Beef production has always been important in this section. It retained much of its importance in this area even though agriculture in this region took part in the general specialization in the production of butter and bacon during the last 50 years.

In the western part of the country Shorthorn cattle have been the prevailing type, and beef production for the German market has been an important enterprise. Increases in German import duties have changed the outlook for beef production in this area, and have disturbed the former balance between dairying and beef production.

ADJUSTMENT OF PRODUCTION

Dairying is now being expanded throughout the western part of the country. The Red Danish cattle, a better milking breed than the Shorthorn, are increasing in numbers on the peninsula, superseding the Shorthorn and also the native Jutland breed of the Holstein type. These changes call for considerable adjustment in methods of handling livestock and in the growing of feed crops for livestock.

Still more pronounced, however, are the changes taking place in South Jutland, the southern part of the peninsula. Prior to 1920, the agriculture of this region had been carried on for 56 years within German tariff walls and the production of grain and beef had become important. For political reasons, there had been heavy emigration to the United States. Labor was rather scarce in this region while land was rather plentiful. An extensive system of agriculture was followed. Almost 60 per cent of the agricultural land was used for the production of hay and pasture. When this region, after a plebiscite in 1920, was reunited with Denmark, the farmers had to adjust their production to conditions of so-called "free trade," and production for markets which were much more sensitive to world-wide influences. More dairying and

less beef production was now called for. It was natural to assume that Danish farmers, all the time working under conditions of "free trade" and production for the world's markets, should have worked out a system of farming suited to such conditions, and that a change to the system of farming previously worked out in other parts of the country, was all that was required in South Jutland. However, it is only in the eastern part of South Jutland that natural conditions are the same as on the Danish islands. The remainder of South Jutland has, like western Jutland farther to the north, a somewhat more raw, windy, and moist climate, and furthermore, it has areas of lowlands naturally suited for use as pasture. The old established Danish system of farming cannot, therefore, simply be transferred to South Jutland. Further adjustments will have to be made.

The islands themselves are not entirely free from similar problems of adjustment. With recent prices of sugar, the production of sugar beets seems not to be able to hold its own against dairying, but here the adjustment simply calls for a transfer to a system of production followed in neighboring localities.

For the country as a whole it may be said that the somewhat higher wages of the later years call for increased economy in the use of labor. Yet, if the efficiency of labor is taken into consideration, it cannot be said that wages are high; the case is quite the opposite. The prices of the products of Danish agriculture, however, have not risen as much as prices generally, and to obtain a satisfactory income, a larger production per man is necessary. Such an increase has actually come about during recent years. Although the agricultural population has remained about constant for the past fifty years, agricultural production has increased very considerably, even during the past few years.

To assist in making the proper adjustments to changed economic conditions, information relative to the agricultural industry is necessary, and if it is to be of much value as a basis for making decisions, it must be rather detailed, and furthermore, it must be based upon well chosen samples. The need for such information has been recognized in Denmark. A Bureau of Farm Management (Det Landokonomiske Driftsbureau) was created in 1916, and since that date, it has assembled a large volume of useful data. It has assembled and analyzed accounts from the farm accounting associations and from a number of farms whose accounting is done

under the direct supervision of the Bureau. It issues annual reports, as well as special reports, giving analyses of these accounts. So far, the publications by the Bureau represent the only material available in this field.

The objects of the Bureau as stated at the time of its foundation, were as follows:

1. To further farm accounting.
2. To present the results of farm accounting in such a way as to illustrate the economic importance of various types of farm organization, and the economic effects of governmental interference.
3. To present farm economy in such a way as to enable the farmers to improve the economy of their farms.

It will be seen that the objectives of the Farm Bureau were broad, and that it was thought that they could be reached through making analyses of farm accounts. It was assumed that the relative profitableness of the various crop and livestock enterprises could be determined through an analysis of carefully kept farm accounts, and that the most profitable enterprises could be increased while the less profitable ones would be decreased or even abandoned.

However, the interdependence of crop and livestock enterprises, and of different livestock enterprises and different crop enterprises, makes it virtually impossible to determine the profitableness of a single crop or livestock enterprise. The whole reasoning, furthermore, is based upon the idea that the most profitable organization is reached when the average return per unit of money outlay on the different crop and livestock enterprises is reached, while, as a matter of fact, the adjustment must go on until the *marginal* returns balance. Moreover, in the process of computing such cost figures, too much arbitrary allocation of costs is necessary, and the appearance of great accuracy is often misleading. It is now realized that in many branches of manufacturing and still more so in farming, it is difficult to fix a certain cost figure on a unit of production.

The cost of production system, seemingly very exact, under which the cost of everything in the farm business was computed—the cost of oats per bushel, the cost per heifer "delivered to the herd," the cost per hog marketed, and so forth—is therefore losing ground. It was found necessary to explain away many of the results obtained. The root crops, for example, once caused con-

siderable concern because they showed small profits. Yet the farmers have gone on expanding the area in root crops and probably rightly so. In recent years more attention has been paid to the method of presenting results of accounts, grouped as to success or lack of success, and in finding out which features, with respect to farm organization and management, are associated with success or failure. This is obviously a much more fruitful approach to the problem.

PRODUCTION CYCLES

The cycle in the production and prices of pork products is a real problem in Denmark. There are violent fluctuations in the Danish production of pork products. Such fluctuations reduce considerably the profitableness of the enterprise and have recently taken on greater importance than formerly. The Danish farmer is quick to make improvements if their merits are clear to him. While a good statistical service would not likely abolish the cycle, it might at least reduce it materially. It is recognized, of course, that the cycle is not restricted within national boundaries. Even if the cycle were reduced in Denmark, prices would still vary due to variations in supplies in other countries. Such variations are, of course, beyond the control of Danish farmers. They can only contribute their share toward building up the best possible statistical service. The yearly census of Danish agriculture makes available information as to the more important developments in the agriculture of the country. Through the development of sampling procedures the Danish Bureau of the Census has already conducted investigations concerning agriculture which would otherwise have been too costly. By the use of similar methods, it should be possible to enumerate the number and composition of the hog population every third month so that changes which are under way could be discovered early enough to permit of taking action. Such data should also yield material which would help toward clearer understanding of the hog cycle.

PROBLEMS OF PRICE RESEARCH

Danish agriculture is highly commercialized. Purchases of additional raw materials such as feeding-stuffs, fertilizers, and so forth, are large, as are sales of finished products, and there is only a small margin of profit on the turnover. Production is many

times greater than the home market can absorb, and the larger part of the agricultural products of the country are sold in the world's markets where they are subject to competition from everywhere, and to trade regulations and tariff measures which, in some cases, are such as to prohibit trade. Under such circumstances, prices, and variations in prices, take on added importance. It is self-evident that everything which can be done to provide the farmer with the best possible information on which to base his judgment as to probable future prices, should be done. Whether such work is called price forecasting or something else is of minor importance.

The importance of price problems becomes apparent upon examination of the wide variations which occur in the prices of butter, bacon, and other pork products. To what extent are these price variations due to changes in the general price level? How much is due to changes in consumers' demand? What is back of such changes—are they temporary or permanent? Or, we may look at the forces at work on the supply side. Are they due to changes in large competing areas of the world, or do they represent temporary movements—perhaps a so-called production cycle? To date, little has been done in Denmark in dealing with such problems.

MARKETING PROBLEMS

The marketing machinery of Denmark, of which a large part is cooperative, is well developed. However, many marketing problems still present themselves, and so far little has been done to solve them. The question of price quotations has recently come up for discussion. It was found in Denmark, as in many other countries, that the quotations given were none too good. Better representation of sellers, i.e., the farmers, on price quoting boards has been asked for. What is really needed is a thorough market analysis and a proper statistical treatment of the actual data as to prices paid, the quality and quantity of products sold and so forth, followed by prompt publication of the results. Different quotations for the various stages of the marketing process may be needed.

Recently, market quotations on livestock have been the object of criticism. Market quotations on butter have been the object of criticism for many years. Conditions were such with regard to this quotation that the cooperative creameries were led to establish

an office for the assembling and publishing of data on prices actually paid creameries for butter.

Closely related to the question of price quotations are the questions relating to the establishment of market grades. Standardization, even of Danish butter, is by no means complete, and the problem of establishing grades corresponding to differences in quality, which in turn is bound up with differences in price, is a real one. A further question may be raised as to how these prices are related to various brands and classes, and to prices paid for such brands and classes by the consumer.

In such problems there is a gradual shading off on the one hand into problems of supply, and on the other, into problems of demand, and the factors which go to make up that demand.

PROBLEMS OF AGRICULTURAL POLICY

Some rather important problems in agricultural policy have recently come up for discussion. The establishment of small holdings was a movement toward social improvement, originally started to help improve the lot of the agricultural laborers by assisting them to secure a few acres of land on which at least a part of the family's food supply could be produced by the workers themselves and members of their families. The holdings originally created contained, on the average, from 8 to 9 acres. Later, however, there was a change to a movement for the creation of holdings large enough to provide a living for a family without the necessity of outside work, and this movement has been continued largely for political reasons. It finds its support among the city parties and among the smallholders themselves. State subsidies of about $2,000 per holding have been utilized to further the creation of these somewhat larger holdings which average from 18 to 20 acres in size.

Recently, criticism of this program has seemed to gather force. It is contended that such holdings are too small to be efficiently operated except by men of more than usual ability, in which case, of course, so small an enterprise offers too little scope for them. The whole movement is closely interwoven with Henry George's idea that every man has a right to a piece of land on which to make a living, a philosophy which largely belongs to a bygone system of economy. Present-day economy offers many other opportunities for making a living, and it is just as important that these other

opportunities be kept open for all. Industrial labor is constantly faring better. It is mostly from habit that economists go on talking about the factory worker and how his conditions may be improved. In those parts of Europe where industrial workers are strongly organized, they have ceased to be the class with the lowest incomes. Small independent "entrepreneurs," retailers, and tradesmen, are the class which today receive the smallest incomes. The question is raised as to why state subsidies should be used to start a class of small, independent "entrepreneurs" on farms too small to enable them to make a living comparable with that which an able worker can make elsewhere. Such a policy may not make for the best utilization of the country's resources, and may not be in the real interest of the people it is intended to help. Furthermore, it is not certain that every worker in agriculture should have his own enterprise. Such has never been the case in the past, and it is doubtful if it will be the case in the future. Such a system is contrary to the simple rules of economy in the use of labor and managerial ability and of economy in the use of power, equipment, land, and buildings. The buying of farm supplies, and the selling of farm products takes place, for the most part, through cooperatives of which both large farmers and small farmers are members. In this way the higher cost of handling small quantities of supplies and farm products is partly covered up and is borne, in some degree at least, by the larger farms. The question may well be raised as to whether all of the handicaps under which the small holder labors can be overcome by the magic of owning his own enterprise. Obviously there are great dangers in creating farms which are too small.

The Bureau of Farm Management (Det Landokonomiske Driftsbureau) has not been able to secure the data necessary to give an answer to the above question. The data available are not representative as the small holdings included in the sample are decidedly much more above the average of their group than are the reporting middle-sized and larger holdings within their groups. Many of the small holdings on which reports are secured are operated by men who would be able to earn better incomes in other walks of life, or on larger farms. The figures available, seem to indicate that a farm of a size somewhere in the lower range of sizes of the middle-sized farms, a farm of 40-80 acres, is the best economic unit.

A state policy as to land ownership and size of farms must be a long run policy; it must look into the future. The growth of population in Denmark is not such that future wage levels are likely to be low. The next twenty years do not point to much increase in the prices of agricultural products, and it will take a rather good-sized farm unit to provide an income equivalent to that which can be earned in other industries. Dairy production can easily be made too intensive, and this is often done on small holdings. There are indications that hog and poultry production can be successfully organized in larger units. Also for these reasons there is obviously a real danger of not making the newly created holdings large enough.

Another basic policy which is up for discussion is that of the form of land ownership. A characteristic feature of land tenure in Denmark has been the purely capitalistic system of "free ownership" of land, subject, however, to state regulations designed to preserve the middle-sized holdings, which regulations, within recent years, have been colored by the small holdings policy. Denmark has always been, and still is, largely a country of middle-sized farms. It is true that the number of small holdings bulks large, and they have been the object of much outside interest and comment, but the middle-sized farms of from 40 to 150 acres, outweigh by far the small holdings and large estates, both with respect to the utilization of the country's land resources, and to no less a degree, with respect to the volume of production.[1]

Under a system of free ownership of land, a well developed system of cooperative farm mortgage credit associations, and middle-sized farms, Danish agriculture has flourished, and continues to do so. Recently, however, these bases of Denmark's agriculture have been questioned. The Act of 1919 provides that small holdings created by the use of state subsidies should be owned by the state, the operator holding tenure for life. The question arises as to whether or not the advantages of private initiative, and long-time policies with respect to land utilization can be preserved under a system of state ownership of land. It may be possible to preserve these advantages, and in any case there is nothing wrong about the state's retaining ownership of some of its former lands. Ob-

[1] About 65 per cent of the country's land resources are in middle-sized farms. The remainder is about equally divided between large and small holdings.

viously, however, such a system needs a free land market to establish a rent. Political higgling instead of the market might otherwise determine rents.

In conclusion, it may be said that Denmark is faced with the problem of making immediate adjustments in her agricultural production, not only on farms but in her cooperatives as well. This raises a host of questions as to future developments in teaching and research in production and marketing, in price research and in outlook work. There are far reaching questions of agricultural policy with regard to the form of land ownership, the type of agricultural holding, and so forth—questions which involve the form of rural life, and the form of rural enterprise, dependent as they must be upon the people attracted to the industry in the future. It is to be hoped that these problems will be considered, not in the light of immediate political advantage, but from a long time point of view; not in terms of farms and farmers alone, but in terms of the well-being of the whole population.