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C. S. Orwin

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replacement of expensive imported cakes by cheaper home-grown cereals, grass, hay, etc.

(8) An investigation jointly with the proper medical authorities into the question whether freshly produced foods—milk, butter, meat, fruit, vegetables taken fresh from the farm—have any dietetic advantage over goods grown in distant regions, and therefore kept for some considerable time before use.

THE RELATIVE ADVANTAGES OF INTENSIFICATION OR EXTENSI- FICATION OF FARMING

By C. S. ORWIN, M.A.

Director Agricultural Economics Research Institute, Oxford

THE problem of intensification or extensification of agriculture seems to me to open up a discussion of every economic aspect of agricultural economics. I must be excused, therefore, from dealing with all the questions which it raises, and I propose to concentrate upon making certain distinctions in the various aspects of the problem which seem to me to be important.

The first aspect of the problem with which I should like to deal is the claim, which is much too frequently and too thoughtlessly made, for greater production per acre, for its own sake. I say "too frequently" because its constant reiteration may easily lead to wrong policies, and I say "too thoughtlessly" because it ignores the whole economic basis of production—namely, that output must be related to cost of production, as represented by the labour and capital expended upon each acre of land, and by prices. This advocacy of greater physical production per acre is, of course, based upon the experience of the arable-land decline in the eighties and nineties and, again, since the war. The implication is that the movement is abnormal and unhealthy. Let us ignore for the moment the non-economic considerations of national health and national defence and consider the widest possible economic basis of the use of land for agriculture. Viewing the question from the economic standpoint, I might venture the statement that the degree of productivity of land in agriculture depends ultimately upon the ratio of population to the available land. The classical economists had this aspect clearly in their minds, for the problem in their time was one of immediate importance. The population of Great Britain was increasing with great rapidity. The available agricultural area was, in their view, limited mainly to our national boundaries.

As a result we had the expression of dismal opinion, usually associated with the name of Malthus, of the threatening catastrophe of the pressure of population upon the resources of agriculture. But it was this very same period in which occurred the greatest progress that this country has ever seen in land utilization and in high farming—made possible, of course, by the discoveries of agricultural chemists and the use of artificial manures. In other words, the high proportion of population to available agricultural area led to a natural increase in the output per acre of the available land.

In the last two or three decades of the century there came the sudden reversing of the ratio. Settlement and transport opened up the new countries for agriculture. A free-trade country and a country producing an abundance of manufactured goods for export was in a position, virtually, of adding all of this new land to its available agricultural area. The proportion of population to available agricultural land fell rapidly. Was it abnormal, therefore, that output per acre should also decrease and seek a new level? We had a renewal of these conditions as a result of the war. By reason of the abnormal conditions of the war period our available agricultural area was again restricted, the proportion of population to area increased, and we had to depend again upon the greater productivity of each acre. Upon the return to normal conditions after the war, when the world's agricultural areas were available to us again, was it abnormal or unhealthy that we should return to a lower level of productivity per acre?

I may seem to have spent an unreasonable amount of time upon this somewhat elementary analysis, but the point is so often lost to sight that I think there is some value in pointing out that we may still learn something from the reasoning of the earliest economists. Following out this line, and viewing only the wide economic basis of the use of land to feed the population, it would appear that there is nothing abnormal or unhealthy in the extensification of agriculture following upon the widening of the world's available agricultural area. I ignored at the outset the non-economic considerations of national defence or of national health. If these are to be taken into account, then there is sound basis for the N.F.U. claim:

“. . . The Union has consistently adhered to the position that it is not the farmers' business to tell the nation what our national agricultural policy should be; it is the nation's business to state what is expected of home food production. If it be the will of the nation that farming shall be conducted upon ordinary business lines, the industry will continue to adapt its enterprise accordingly. If, on the other hand, the nation demands from the industry results which are in themselves uneconomic and is prepared to foot the bill, farmers will be willing to consider such proposals.”—(*N.F.U. Memorandum on Agricultural Policy.*)

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In the other aspects of the problem, discussion must be confined to particular commodities. We might look into the question of how we compare with competing countries in this matter of intensification or extensification. There are two ways in which the production of a crop may be intensified—namely, either by the application of more fertilizer per acre or by the application of more labour per acre. As regards intensification by a greater use of fertilizer, the remedy is open to all the world, and, except in so far as the English farmer may be more alert and more ready to avail himself of the low-priced fertilizers which the manufacturing chemists are placing at his disposal, he enjoys no advantage in this respect.

But it is intensification by labour which is most conspicuously in the minds of the advocates of a more intensive agriculture. "More men on the land and greater output per acre" are very common expressions, which have become almost slogans with agricultural publicists. In this respect English agriculture operates under conditions different from all other countries. In no other country have things proceeded so far in the direction of capitalist farming—that is to say, in the separation of the functions of manager and manual worker; in fact some 75 per cent. of the farming area of England is cultivated, in the main, by hired labour employed on farms relatively large, whereas all competing commodities, with the exception of meat, imported into this island are the products of the industry of the family farmer on small holdings. This is true of the dairy products of Ireland, of the Continent and of New Zealand; of the grain of Canada, India, Australia and Russia; of the fruit and vegetable products of the Continent, of California, of South Africa and of Tasmania. In countries where the family farmer predominates, costs of production are necessarily lower than in England, because so much of the labour never appears in the cost sheet. The family farmer pays no wages, he knows no statutory hours of labour; his wife and children share in the work of the farm, and the remuneration per head is generally below that of English wage-labour, having regard to the hours worked. Contrast these conditions with those of capitalist farming in England. Rates of pay depend not upon the value of the product but upon the value of labour in urban industry. Ordinary rates apply only to a restricted working day. Extra pay must be given for overtime and Sunday work; and all these things, reflecting the higher standard of living which has been secured by the English rural worker in contrast with his overseas competitors in all parts of the world, represent a charge upon production which they have not got to meet. Nor is this charge limited to that which is required to meet the worker's standard of life. The Continental peasant and the prairie farmer alike are master and man too, and their standard of life is the subsistence level. In England, where the two functions are no

longer united in the same individual, not only has the worker secured for himself a life something better than this, but so also has his capitalist employer. The English farmer has long been accustomed to a higher standard of living, but it must be recognized that as regards most of his products he is competing with farmers living on the subsistence level the world over.

In this respect we might note, in passing, that our own family farmer is less affected by the risks of fluctuating prices than the capitalist farmer; he is always in receipt of his wage as a worker, even though in times of depression he has to sacrifice his profit as a capitalist.

Nor does this exhaust the handicaps of intensive farming in England in relation to other countries. One-third of the decline in the number of agricultural workers since 1871 is in respect of boys between the ages of ten and fifteen, and is the direct result of the Education Acts. A casual study of the regulations governing compulsory attendance at school in most Continental countries suggests that they resemble our own, in that children must attend until the age of fourteen. But this does not always mean a full-time attendance. In much-advertised Denmark, children of eleven years of age attend for only three days in the week, nor are there facilities in the way of maintenance grants to enable the country child to go on to the secondary school. In Germany, summer school does not begin till midday in the country districts in certain states, and in Belgium and Holland children of ten and of eleven years of age respectively may be released from attendance for a certain period of the year.

As regards intensification of labour, therefore, the farmer is always up against the conditions above recounted—that is to say, he is employing high-paid labour in competition with labour on a subsistence level—and as regards agriculture, at any rate, the saying attributed to the first Lord Brassey that “all labour costs the same” is certainly not true. In the present organization of farming in this country the possibilities, if they exist, of getting a higher output from better paid labour have not been realized, and if and when they are, in what better case will the Eastern Counties corn-grower be, working with men living under Trade Union conditions (with which, of course, I have no quarrel) in competition with the prairie owner-occupier working all the hours of daylight on a combined harvester-and-thresher?

The conclusion seems to be that in the case of what may be termed the primary agricultural products, in the production of which the English farmer has to face the competition of subsistence farmers all over the world, he is at a serious disadvantage. Until the whole world is hungry, or until Geneva has obtained equal conditions of labour all over the world, it seems unlikely that there is

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any great future in England for the growth of such commodities except by methods which increase in their extensiveness as the rural standard of living approximates more and more closely to that of the urban industrial worker.

Turning now to the narrower aspect of intensification as illustrated by high farming, the only point which I should like to make is that it is impossible to generalize for farms as a whole, as the individuality of the farm must be taken into consideration. Most people can point to farmers here and there who continue to farm high in the face of prevailing prices, and who tell you that it is no use growing a crop unless you grow a good one. To use these cases as models for general application seems to rest on a complete misunderstanding of one of the most elementary theories of economics. We need not concern ourselves with all the details of the Ricardian theory of rent, but the conception can give us a warning in this matter. The simple basis of the theory, I may remind you, is that land varies in its natural capacity to yield a crop of a particular commodity with a given expenditure of labour and capital. At a given price for the produce there is one grade of land which it will just be profitable to cultivate. That land has been called the "marginal" land at that price. Slightly better land will make a profit, and the best land will make bigger profits. Poorer land could be cultivated only at a loss or with a lower standard of living on the part of the cultivators. I think that many farmers who have never made the acquaintance of Ricardo give their own statement of his theory when they say that "any damned fool can farm good land." The immediate point of importance is that it is the price of the commodity which determines whether a loss or a profit will result on the marginal land, or land which is near the margin of cultivation of the particular commodity. In the case of the best land it is not a question of profit or loss in a time of low prices, it is simply a question of greater or less profits. It is the farmer of the marginal land who must be in a position to adjust his policy to a change in prices, and it is folly to direct him to the example of the farmer on good land.

However, this cannot be regarded as a final answer to the question of the relative advantages of intensification or extensification of farming, for it presupposes only the possibilities regarding the farmer's present system of farming. There is, however, the question of a change of system. Intensification by the corn-grower, for example, is not limited to a consideration of an increased output of grain, or extensification by him to a reduction of his output of the same commodity. Intensification would occur if he were to reduce his corn area and devote some of his plough-land to the production of market-garden crops or sugar-beet, just as extensification might follow by seeding-down the plough-land and ranching it with

sheep. It seems to me, however, that this is not a problem of intensification or extensification, but of readjustment, which may take the form of either of these two policies. One of the most striking examples of readjustment of farming systems is the case of the change to milk-producing which took place in Essex towards the end of last century. Into what category—intensification or extensification—can this change be put? It is true that land was lost to the plough as a result of it, but was there a less expenditure of capital and labour on farms under the new system? Was there a lesser value of produce per acre? Further, looked at from the point of view of the milk-producing industry alone, was it not a case of extensification—taking production from the town dairies with high investment in stock and feeding-stuffs to the more extensive system of production on farms? The example brings out most clearly the difficulties of the terms intensification and extensification when used in connection with a change of system.

I have had to limit myself to the discussion of a few only of the points raised under the title of this paper. There can be no absolute decision on the subject suggested by it, and to sum up, three questions seem to be indicated, the answers to which I must leave you to supply:

(1) Are we to attempt a gradual redistribution of the land so as to promote its occupation in smaller units, thus bringing our farmers and farm-workers down to a subsistence level, as represented by the family farmer, in order to put them on equal terms with their overseas competitors?

(2) Are we, on the other hand, to meet this competition by taking a lesson from urban industry—a lesson which has been applied already, here and there, by agriculturists in regard to particular products—and to seek to maintain the standard of living by application of the large-scale factory system, with a low-production cost and a lower output per acre?

(3) Or are we, as another alternative, to direct production in this island in such a way as to exploit the virtual monopoly in certain commodities which we enjoy by reason of transport costs, perishability and so forth, leaving all land which would be described as "marginal" under such a system to go in or out of cultivation, of one kind or another, as the state of the market or the courage of agricultural adventurers might determine?