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THE RESPONSIBILITY OF THE AGRICULTURAL EXPERIMENT STATION IN THE PRESENT AGRICULTURAL SITUATION[1]

SITUATIONS—good, bad or indifferent—are the common lot of man and of all groups and associations of men. Your program committee was therefore perfectly safe in assuming that there is an agricultural situation.

It was probably equally safe in assuming that the agricultural experiment stations of our country have some responsibility in connection therewith.

Some critics have gone so far as to hold the experiment stations responsible *for* the present situation, stating that were it not for the experiment station and the agricultural extension service there would be no agricultural situation, of the present sort at least. This is very likely true. Our agriculture might, however, be in the "fire" instead of the "frying pan."

I take it that the province of this discussion is to consider rather the responsibility of the agricultural experiment station *in* the existing situation.

Before the experiment station can get very far in the exercise of its responsibilities it will have to know very definitely what the agricultural situation is. As a "fact-finding" institution perhaps this is its first work, to find the facts as to the actual situation.

Having found these facts, it will be in order to determine the several causes which have resulted in the present situation; and, finally, to suggest courses of action, based upon researches, which give promise of remedying the situation.

We have quite a variety of opinions and pronouncements as to the agricultural situation—a situation which naturally changes very considerably month by month and year by year, as witness the change in the list of "basic" products in successive editions of the McNary-Haugen Bill. The price of eggs for several months past has indicated that the next edition of this bill would include eggs as one of the basic products, along with rice and tobacco!

The present agricultural situation has been described by some as "the farmer's failure to get his

[1] Address delivered at the forty-first annual convention of the Association of Land-Grant Colleges and Universities, Chicago, Illinois, November 15, 1927, by Director C. G. Williams, Ohio Agricultural Experiment Station.

share of the national income," and by others as his "inability to earn sufficient return upon his investment." Recently the agricultural committee of the International Economic Conference described the situation as "the disequilibrium which has arisen between the prices of agricultural products and manufactured products." This definition comes from an accredited source and is perhaps as satisfactory as any.

Now disequilibriums are usually brought about, the economists tell us, by maladjustments between the supply of and the demand for products. I take it, then, that the experiment station should make a thorough study of the production and consumption of the agricultural products in which its constituents are actively interested with a view of determining the actual situation.

WHEAT PRODUCTION AND CONSUMPTION

Take the wheat crop, for instance. What has happened to it during the last forty years? Comparing the five-year period 1885–1889 with 1920–1924, it appears that our acreage per capita was 0.57 in the earlier period and 0.52 in the later, or a decline of 8.8 per cent. But, owing to increased yields per acre, our production per capita increased during this period from 6.77 bushels to 7.26, or 7.2 per cent. This increase in production would not seem to be a serious matter if the other factors bearing upon the wheat situation were unchanged. Unfortunately for the wheat farmer the factor of consumption has not remained the same. According to figures gathered by the U. S. Department of Agriculture the per capita consumption or "disappearance" of wheat has declined 1.1 bushels during the period in question. This, with the increased production of 0.49 bushel, makes an excess of 1.59 bushels per capita above the supply of thirty-five years ago.

How shall we account for this reduction in the consumption of wheat? Is it a permanent reduction, and is there a possibility of its increasing?

Wheat is one of our greatest energy-producing foods, and, in common with other foods of like character, is in less demand now than formerly because less hard physical labor is called for in the world's work. For one, and perhaps the most important thing, during the last forty years two hours have been clipped off the day's work of almost our entire population. While our farm population is not working an eight-hour day, it is probable that the farmer's working day has been shortened in proportion. Eight and ten hours of labor do not call for the amount of energy-producing foods that ten and twelve hours of labor require.

Then the tasks of the laborer, both in the manufacturing industry and on the farm, have been greatly lessened in so far as the physical energy called for is concerned by the marvelous line of machinery now in use.

SUBSTITUTING ONE FOOD FOR ANOTHER

Partly as a result of these changed conditions and partly as a result of propaganda other foods, such as vegetables, fruits and milk, are being substituted for these energy-producing foods. Physicians, nutrition experts, and, sometimes it seems, the very "stars in their courses" are adjuring the public in their behalf. Still other foods have been called into increased use during recent years, notably poultry, eggs and sugar. All these changes mean a decreased demand for wheat and meats as a whole, though the consumption of pork shows an increase, but very likely a temporary one. Limits have been set to the capacity of the human stomach. More fruit, milk and eggs necessarily mean less bread and meat. And less hard labor means less energy-producing foods. So far as one can now see these conditions are here to stay and will result in a permanent, and possibly in a still further reduction in the demand for wheat as far as this country is concerned.

This study would have to take into consideration foreign production and consumption, for so long as we have to depend upon a foreign market for the utilization of a portion of our product so long will foreign conditions and tendencies be of concern to us.

Some such study as has been briefly and incompletely indicated for wheat would seem to be within the province of the experiment station for all the crops in which its constituency is interested. In so far as the present agricultural situation is due to production, consumption and consequent price relationships, such studies should prove of value. They should include investigations of the effect of temporary increases and decreases in production prices, concerning which our data are limited.

But there are doubtless many things which have had to do with the present agricultural depressions which need investigation.

TAXES

There is need for a thorough study of taxation as related to farm property. Our farmers are paying on the average 150 per cent. greater taxes now than in 1914. No other farm expense has increased in like ratio. A careful study should be made of rural as compared with urban taxation. Studies now under way in some sections are showing that while rural real estate is on the tax duplicate for 88.4 per cent.

of its sales value, urban property in the same county is assessed at 63.2 per cent. of its value. Reliable facts of this kind are being used very effectively in securing proper readjustments of the tax duplicate.

There are other tax burdens resting upon farm property that are in need of adjustment, which it would not be difficult to secure if all the needed facts were available. Fifteen years ago our cross-country roads were seldom used by traffic originating in the city. They were the farmer's own roads, and it was proper that he should make and maintain them. The situation is very different to-day and reliable facts on the existing situation would be very useful.

Our cities are not only interested in the country roads but in the youth of the country. These country boys and girls are educated at the expense of the rural community, but as soon as they arrive at a productive age many of them go to the city. Would it not be desirable to know all the facts involved in this transfer of rural wealth to the city? Is it not likely that such knowledge, if properly handled, would result in the shifting of a portion of this tax burden from the country to the city?

TARIFF

Does any responsibility rest upon the agricultural experiment station to make a study of the effect of the United States tariff on agriculture?

Of partisan opinions, both for and against the present tariff schedules, there are an abundance. While many investigations of a nation-wide bearing can very appropriately be undertaken by the United States Department of Agriculture it would hardly be possible for the department to conduct such an investigation because of its political connections. It would doubtless be difficult enough for a state experiment station to do so, but we surely need information as to the effect of the tariff on prices in this country. Such questions as:

Is the American price of protected articles always, usually, seldom or never equal to the foreign price plus freight and tariff?

To what extent are American products that are favored by a tariff sold abroad, and at what prices?

Are the products which are sent abroad sold at a loss or at a profit?

Is there any significance in the fact that many of the heavily protected articles, such as iron, steel, structural steel and chemicals, are selling nearer prewar prices than grains, meats and dairy products?

How does the efficiency of the American laborer compare with that of the European laborer?

These questions may have some bearing upon the agricultural situation. The agricultural public would like information on them. Should not the experiment station help secure this information?

FARM LABOR

To what extent do the high wages of farm labor contribute to the agricultural situation?

In considering the principal items which make up the expenses of the farmer, including labor, machinery, feed, taxes, fertilizer, buildings, clothing, furniture, groceries, fuel and a group of miscellaneous items, farm labor is the second highest of the lot in comparison with pre-war prices, being exceeded by taxes only.

The wages of farm labor are influenced by the wages in manufacturing industries, though they have not increased in proportion to the latter.

It might contribute something to the mental condition of the farmer if he had some reliable data on the relative efficiency of farm labor now as compared with ten or twenty years ago. An investigation might show an increase of 30 to 60 per cent. in the productive efficiency of farm labor, as is believed by some people. Whatever the findings, it would seem that studies as to the efficiency of man power on the farm, the average working hours per day and working days per year would contribute information of considerable value in discovering what the agricultural situation is, and in adjusting ourselves to it.

In the time available it will not be possible to consider very many of the causes which may be contributing to the present situation. A few minutes should be given to lines of investigation tending to improve the situation.

ECONOMICAL PRODUCTION

Economical production is still the great question for a vast number of our farm people. A large proportion of the questions put up to the experiment stations to-day have to do with production. These questions have by no means been solved. When farm management studies conducted in one county of an important corn state show some corn growers investing in an acre of corn 260 per cent. more man hours and 177 per cent. more horse hours than other growers, and at the same time securing smaller yields per acre, there would seem to be room for improvement. There are individual variations of this sort in most neighborhoods, and frequently whole counties or sections of states show variations of moment which would be gradually corrected if attention were called to these differences by a comprehensive study of conditions. Such changes make for more profitable farming.

Most of our experiment stations have conducted, or are conducting, extensive soil surveys of their respective states. These soil surveys should be followed by equally thorough ecological surveys. Many of our farmers are attempting to grow alfalfa and sweet clover on land better adapted to alsike clover and timothy. Potatoes, tobacco, sugar beets and many other crops are often carried to soils and climates in which they are not at home and where they can not be grown economically. A better adjustment of crops to soil and climate will most certainly result in more economical production.

THE CEREAL-LEGUME RATIO

More investigations need to be conducted relative to the most desirable cereal-legume ratio. Grouping the non-legume potatoes and sugar beets with the cereals for the present purpose, it will be found that for the average of the years 1924–1926 the ratio of cereals to legumes seems to run from 2.7:1 in Michigan to 45:1 in North Dakota. And if cotton be included, Texas has a ratio of over 70:1, though possibly the legume figures as given in the Yearbook of the U. S. Department of Agriculture may not be complete for this state.

It is evident that if our leading corn belt states were to go from perhaps an average ratio of 8:1 to 3 or 4:1 our cereal surplus problem would be pretty well taken care of, even in a good season.

Our increased acreage of legumes would be used mainly for soil improvement, which would result in larger yields of non-legumes per acre, though in a smaller total production, and our production costs per unit would thus be reduced.

ADJUSTING AGRICULTURAL PRODUCTION

It would seem that the time has arrived when our farm people must exercise a greater control over production. In so far as live stock is concerned this is comparatively easy, for we have matters largely in our own hands. If there is overproduction it is evident who is to blame. We are controlling production now, but not always in a wise and profitable way. Our hog men are simply a few months behind the game. Investigations like those reported in a recent bulletin from Illinois (Bulletin 293) on "Adjusting Hog Production to Market Demand" will have beneficial results.

In crop production matters can not be controlled as easily. A reduced acreage will, on the average, result in reduced production, but there will be exceptional seasons in which this will not hold good. If nature is especially kind one season we shall have to learn to limit our acreage the next season, or until the old surplus can be marketed satisfactorily. I fear that any plan to buy up surplus products and hold them until they can be marketed at a profit is doomed to fail unless some control over production is provided; but as yet no one seems to have suggested a workable control.

There is, however, no reason to believe that farmers can not learn to cooperate in these matters. The Canadian Wheat Pool, which controls 75 per cent. of the wheat acreage of Canada, is an encouraging sign of the times. Once we get over the notion that we are going to make Uncle Sam hold the bag and pay round prices for whatever we care to dump into it we may be able to engage in cooperative marketing as wisely and as satisfactorily as some other farm peoples have done. As a matter of fact the agricultural census of 1925 shows that the necessity for decreased production is being appreciated along many lines, and there is good reason to believe that the desired equilibrium between agricultural and other prices is gradually approaching.

America is anxious to maintain and increase its present high standard of living. This rests, in the main, upon the high-wage scale prevailing in this country. There would seem to be only two ways in which we can operate on a higher wage scale than Europe, and these are to produce more per man—*i.e.*, produce more economically—or confine our production to the needs of our own people. When we go into the markets of the world we shall have to accept world prices. Any attempt to give ourselves a bonus on exports will be almost certain to be met with a retaliatory tariff in every country except where it is desired to take advantage of cheap food, the better to compete with American manufacturers. And this would have to be offset here by a higher tariff, which means that we should soon get dizzy traveling around in a circle. Confirmation of this attitude on the part of foreign countries is to be had by the recent proposal of the National Farmers' Union of England that "counter-availing safeguards to home production, to meet bounty-fed competition from abroad be adopted."

There are two ways of attacking the problem presented by the present agricultural situation. One is agricultural research, followed by such economies and adjustments as may be indicated, together with commodity organization. The other is the Via Dolorosa of political nostrums. If the agricultural experiment stations rise to the occasion we may be saved from the latter.

C. G. WILLIAMS
OHIO AGRICULTURAL EXPERIMENT STATION