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LIVESTOCK PROBLEMS IN AGRICULTURAL PLANNING

An address by G. B. Thorne, Principal Agricultural Economist, Agricultural Adjustment Administration, before the annual meeting of Section O, of the American Association for the Advancement of Science and Associated Societies, at Pittsburgh, Pennsylvania, December 28, 1934.

It is indeed fortunate that the sponsors of this program chose to insert the word "problems" in the title of this paper. The title as it stands, opens up a broad field of discussion, whereas if it had been changed to read, "A Solution of the Livestock Problems in Agricultural Planning", I would have been forced to suggest that some other speaker be selected.

Livestock production is as varied in its nature as agriculture itself. It fits into all types of agriculture in all sections of the country in various forms and degrees. The production of livestock is an important factor in both extensive and intensive farming as well as all gradations in between, and it can be conducted quite separate and apart from any other agricultural pursuit as in the case of commercial feeding, where it more nearly resembles manufacturing than it does agriculture as we normally think of it. It goes without saying that in attempting to bring together the various segments of an industry, with so many diverse types of production, into a national plan, many complex problems are bound to arise.

During the last year and a half, the Agricultural Adjustment Administration has had some experience in attempting to alleviate some of the economic problems of livestock production. The brief time that has elapsed and the prevalence of several other unusual elements in the livestock situation prevent any exact and complete measurement of the results accomplished, but the activities have brought out in bold relief some major problems involved in fitting livestock production into a more permanent national plan for agriculture.

The programs of the Agricultural Adjustment Administration dealing with livestock as well as those dealing with most other agricultural commodities thus far have been programs designed to meet emergencies and, therefore, only of temporary character. The emergencies which the programs have been designed to meet have been of two types: First, those brought about as a result of excessive supplies and low prices, such as prevailed at the time the Agricultural Adjustment Act was passed, and second, the problems of an emergency character that arose as a result of the unprecedented drought of this year.

During the winter of 1932-33, corn prices and hog prices reached the lowest level thus far in the present century. Although prices of both commodities were almost at unprecedented levels, corn prices were relatively lower than hog prices, and the pig survey of the Department in June, 1933 showed that a further increase in the pig crop had occurred in the spring of 1933. Soon after the Agricultural Adjustment Act was

passed, officials of the Administration and producers began the task of developing an adjustment plan for corn and hogs. It was impossible to develop a production control program to become effective before the spring of 1934, and since it required nearly a year for a production control program to be reflected in market supplies and prices, attention was turned to the development of a program that would improve the situation which confronted producers within a shorter period of time.

As a result, the emergency hog marketing program was put into operation in the late summer and early autumn of 1933, when 6,200,000 pigs and some 200,000 sows due to farrow were purchased at premium prices for the account of the Government and removed from regular commercial channels. This program probably brought about a net removal from commercial channels of about 5 million hogs. Inspected slaughter during the 7 months, October 1933 to April 1934, amounted to 27 million head, or about the same as the previous winter. It is evident, therefore, that the Government purchases prevented an extremely burdensome supply situation during that period. Further emergency adjustment in market supplies of hogs was effected during the winter of 1933-34 through Government purchases for relief distribution of about 1,400,000 hogs and a quantity of hog products which was the equivalent of about 600,000 live hogs. These supplemental operations tended further to support the hog prices during the periods when marketings were relatively large.

The inauguration of the 1934 Corn-Hog Program was the next step taken in this emergency. Contracts were offered farmers early in the year which required the contract signer to reduce his corn acreage at least 20 percent and his production of hogs for market at least 25 percent from those of the 2-year base period 1932-33. As remuneration for these adjustments, producers received 30 cents per bushel of yield estimated for the corn acreage contracted to the Secretary of Agriculture, and \$5.00 per head on 75 percent of the average number of hogs produced for market from his 1932-33 litters. Approximately 1,200,000 farmers, representing all of the 48 states signed the 1934 Corn-Hog Contract. About 65 percent of the total United States corn production and between 70 and 75 percent of the hog production was represented by the contract signers. The grand total of benefit payments amounted to about \$310,000,000, which is being derived from a processing tax of \$2.25 per hundredweight on hogs, and a processing tax of 5 cents per bushel on corn.

During the winter of 1933-34, cattle producers also became interested in developing a plan for curtailing cattle production through a national adjustment program. Early in April the Agricultural Adjustment Act was amended to include cattle as a basic commodity, and soon thereafter a committee of representative cattle producers was appointed to work with the Agricultural Adjustment Administration in developing a cattle production adjustment program. An analysis of the cattle situation showed that cattle numbers had increased about 10,500,000 head since 1928. Since a major share of this increase had been in cows and heifers, the supply of breeding stock at the beginning of 1934 probably was the largest on record. The increase in numbers had been

reflected in increased slaughter since in May, 1933, and it was apparent that a relatively long period of market liquidation and low prices would be experienced unless a program for bringing about a more rapid adjustment was adopted.

Before the formulation of the plan had been completed, however, the 1934 drought became acute in the Dakotas and Minnesota. It became apparent that steps would have to be taken promptly to remove cattle from the drought stricken areas. With the advent of the drought, the Agricultural Adjustment Administration reached an understanding with the committee of producers that aid would first be rendered to the cattle producers of the drought area and to postpone the formulation of any cattle adjustment program until the consequences of the drought could be adequately determined. During the month of July the drought area spread to cover most of the territory west of the Mississippi River, and it became evident that the cattle buying program would need to go beyond the point that would have been considered advisable in a reduction program with normal weather conditions. Hence, the reduction of cattle numbers as an adjustment measure became secondary to the purchase of cattle solely for the relief of distress. About 7,500,000 head of cattle and calves have been bought under this program, and commitments have been made for the purchase of an additional million head.

A sheep and goat buying program also was adopted as another emergency drought measure during the summer, and about 3,600,000 head of sheep and 343,000 goats have been purchased by the Government. In the case of both cattle and sheep, those animals which were found to be unfit for food or so emaciated that they would not withstand shipment to market were condemned and disposed of on the farms or ranges. Those animals fit for food were turned over to the Federal Emergency Relief Administration to be processed into canned meat for distribution to people on relief rolls. The farmers who have sold livestock in the Government under these programs have tended to sell their old and inferior animals and retain the better animals in their herds. Therefore, the reduction in the productivity of livestock will not be so marked as the figures of disposal would indicate.

Although the emergency programs have done much to bring about a more normal relationship between feed supplies and livestock supplies, the effect of the drought in curtailing the production of feeds has been so great that there is still an abnormally small feed supply per animal unit in the United States. This situation not only presents the serious problem of how to get the maximum number of the remaining livestock supply through the winter, but also how to prevent a disparity between livestock supplies and feed supplies a year from now. An analysis of yields in years following severe droughts indicates that the probabilities of a drought in 1935 are no greater than in any other year, and that the most reasonable expectation is for crop yields to be normal or above. A greater than normal production of feed grains in 1935 with livestock numbers materially below normal would inevitably result in excessive supplies and low prices of feed grains. This would create a price relationship between feed grains and livestock which

would probably bring about an excessive expansion in livestock production.

The 1935 Corn-Hog Program, which will be offered to producers next month, is designed primarily to assist in preventing a wide disparity between feed prices and livestock prices, and to keep the supply of the two commodities more nearly in balance. Contract signers are permitted to produce a larger number of hogs than was possible under the 1934 Program. The 1934 contract required the cooperating producer to reduce the number of hogs produced for market in 1934, 25 percent below his production in the base period 1932-33. The 1935 contract permits him to produce up to 90 percent of his base period production. The 1935 Program is of the same general type as the 1934 Program, but it is modified in a number of respects, due to the change in objectives.

The emergencies enumerated above have necessitated commodity programs attacking current or prospective surpluses in each commodity. These programs, together with the drought, have not only eliminated excessive livestock supplies, but have brought about a greater reduction in numbers than is desired from a long time point of view. Looking ahead to the time, which we hope will be soon, when acute emergency situations will no longer prevail, a much different approach to the adjustment problem dealing with livestock will be necessary if national planning for the industry is to continue over a period of years.

Since the removal of surplus supplies is no longer a problem, the objectives in future national planning for livestock should be: First, to stabilize production and prevent excessive supplies, which must include the maintenance of a proper balance between feed supplies and livestock supplies, and second, to improve the demand for meats in both domestic and foreign markets. The problem of the future, therefore, is to determine how these objectives can best be accomplished.

The production adjustment machinery which has been designed to meet the emergencies has been crude and complicated. Although this is excusable in meeting emergencies, continuing adjustment programs must provide for greater flexibility to producers in complying with the adjustment requirements and must eliminate much of the overlapping of administrative machinery.

There are some who advocate that direct control of livestock production should be broadened to include cattle and sheep on much the same basis as hogs are controlled in the 1934 and 1935 Programs. This would involve establishing allotments to individual producers of cattle and sheep, and making benefit payments thereon from funds collected from a processing tax on all classes of livestock. Under this approach, the production requirements for each class of livestock would be modified from year to year in the light of best forecasts of domestic and foreign demand. Without question this method of controlling livestock production would be the most effective in ironing out the well-known cycles in production, provided it could be properly administered, but there are a number of important difficulties in administering such a livestock program.

In the first place, livestock is not well adapted to such rigidity of production control over a period of years. The length of time required to produce livestock for market makes it impossible to forecast with any degree of accuracy at the time objectives are determined what the demand conditions are going to be when the livestock is ready for slaughter. This is a problem, particularly in the case of cattle and sheep, but even in the case of hogs it is a greater problem than in the case of crops.

In the Corn-Hog Program it was found necessary to attach the allotment to the individual producer rather than to the farm. A large percentage of the farms in the Corn Belt are operated by tenants who shift from farm to farm very frequently. These conditions make it impractical to attach livestock allotments to the farming unit. On the other hand, when allotments are attached to the operator, it creates a difficult problem of how to provide for the new producers each year, and to handle the complex problems of distributing allotments and benefit payments between landlord and tenants operating on a share basis.

It is also extremely difficult to establish satisfactory individual allotments and county and state quotas for livestock. Few producers keep accurate records of livestock production sales, and evidence obtained from market agencies and similar sources frequently is inaccurate and untrustworthy. Conditions as between producers vary much more than with respect to crop production. These conditions encourage large overstatement of base production and make necessary rather severe adjustment of the original contract figures if effective control and equity is to be obtained. Allotments for hogs in the 1934 Corn-Hog Program were established with a fair degree of success, but the data available for checking individual contracts as well as for determining state and county quotas are much more plentiful in the case of hogs than in the case of cattle or sheep.

Another major difficulty in the direct control of livestock production is the problem of determining and enforcing compliance. In a crop adjustment program, checking compliance is merely a matter of measuring acreage, thus limiting compliance activities to one operation and one small area. In a livestock program, any effective system for checking compliance would involve a great deal of detailed work, since livestock is easily moved from field to field and from farm to farm, and because death losses and other factors make it advisable to check compliance in terms of marketings. A really effective system of checking compliance in livestock production probably would necessitate adopting a system whereby certificates would follow the livestock from producer to packer and licensing slaughtering establishments in order to be sure of obtaining complete and accurate reports therefrom covering purchases of animals from individuals. Such elaborate and costly procedure would be essential, especially if prices were rising and livestock production attractive. The Corn-Hog Program has not been put to a real test as yet in this respect, since the hog-corn price ratio has not been favorable to material expansion of hog production, and the problem would be much simpler in the case of hogs than in the case of cattle or sheep.

A program to control the production of livestock would have to be accompanied by a program to control feed grains. If farmers were permitted to plant an unlimited acreage of feed grains while production of livestock was being controlled, sooner or later a large surplus of feed would develop, and prices would reach such a low level that it would be impossible to prevent this surplus from being utilized in the production of livestock. Experience has shown that excessive supplies and low prices of feed are usually followed by an excessive supply of livestock, and it is doubtful if any plan could be developed that would prevent this sequence of events through the exclusive control of livestock production and at the same time render benefits to the livestock producer who is for the most part also the producer of the feed grains.

Another approach to the problem of livestock production adjustment is to have a national program for controlling feed crops and exercising no direct control over livestock production. The Agricultural Adjustment Administration has done considerable work in attempting to estimate to what extent a control of feed grains would control livestock production. Our tentative conclusions are that the maintenance of feed grain acreage at lower levels than that of recent years would reduce total production of livestock products, but most, if not all, of the reduction would be in hogs and poultry products, as soon as the acreage retired from feed grain production were utilized for hay and pasture production. By keeping the retired acreage idle, beef and dairy production, also, could be kept at a lower level than that which has prevailed in recent years, but to adopt a plan for keeping land out of production on almost every farm in the Corn Belt would be a very questionable policy.

A major advantage of a feed grain program would be the opportunity it would give producers to conserve their soil resources, and to build back a portion of the fertility that has been lost through intensive cropping, or at least to maintain the present fertility. Cash requirements for taxes, interest, etc., on the average farm during the post-war period have been so large that the cultivation of more acres has been necessary rather than planting less, and as prices have declined, the urge to farm more intensively has been accentuated further. The individual farmer has had little opportunity to vary this procedure. If, through cooperative action, cultivated crops can be kept within more reasonable limits, it should enable producers to get as large a total financial return from such crops, and, at the same time, provide them an opportunity to adopt a system of farming which will increase soil fertility, rather than diminish it.

Since the pre-war period, pork has constituted an increasing percentage of the total meat produced in the United States. Feed-grain control would result in a reversal of this trend, but this should not be viewed with alarm if it would check the drain on soil fertility in the Corn Belt. The sharp reduction in export outlets for hog products during the post-war period also indicates the desirability of such a national policy, as long as our present position in foreign pork and lard markets prevails.

Western cattle producers would be concerned as to how the demand for feeder cattle would be affected by a feed-grain program. Some reduction in the number of grain-fed cattle in the Corn Belt probably would occur, but it is doubtful if such an adjustment would have any material influence on return to range cattle producers. A reduction in the total supply of all meat would help to support the price of grass cattle, as well as grain fed cattle. Furthermore, increased pasture, and a decreased grain supply probably would encourage Corn Belt farmers to bring a large number of stocker cattle to fatten on grass.

An analysis of the exact effect of a feed-grain program on dairy production is extremely difficult. On the one hand, grain prices would be strengthened and the tendency toward the expansion of dairy production in the northeast and in the fluid milk sheds of almost all our large cities would be curbed. On the other hand, it is reasonable to suppose that a reduction in grain production and an increase in the acreage of hay and pasture in the midwest would tend to encourage an increase in dairy production in the midwest. Since the reduction in the northeast would be almost altogether in "surplus milk" production, and since the increase in the midwest would go into butter and cheese production, the net effect of a feed-grain program on dairy production, considered as a whole, should be small.

If such a program were put into effect in 1936, it no doubt would be several years before the final adjustments would be obtained. The 1934 drought has no affected the present acreage of hay and pasture, and the seed supply, that it would be at least two or three years before the maximum increase in hay and pasture, which might result from a grain program, could be obtained. As a result, a feed-grain control program would have a more marked effect on beef and dairy production during at least the first two years than is indicated above. And this is, of course, what is wanted if it is assumed that we will continue our gradual recovery from the Great Depression, and that both population and purchasing power will continue to increase as a result.

A feed-grain acreage control program would not prevent the occurrence of livestock production cycles. The inevitable year to year changes in yield per acre would create wide fluctuations in supply and price, which in turn would create the usual cycles in hog production and cause marked variations in the market supply of grain fed cattle and lambs. The plan advanced by Secretary Wallace for an "ever normal granary" might be adopted as a supplement to feed-grain acreage control as a means of meeting this problem. It would involve the extension of loans to farmers on excess supplies of feed grains in years of high yields, and releasing these supplies in years of relatively low yields. Such a plan should aid materially in ironing out the year to year changes in livestock production in the Corn Belt, provided the policies as to loan values and amount stored and release are kept on a sound and conservative basis.

Even with the successful operation of the "ever normal granary" principle, the cycles in cattle and sheep production would not be

prevented. Cattle and sheep production is not affected so much by the yearly fluctuation in grain supplies as hog production because of the longer period of time required to expand and curtail production, and the greater importance of roughage in the rations. The cycles are of longer duration, and are greatly influenced by the relation between prices of the livestock in question and prices of other competing agricultural commodities. One method of reducing the sharp fluctuations in market supplies of cattle and sheep, over a period of years without attempting direct control from year to year would be to purchase surplus breeding stock at premium prices whenever the danger of an excessive market supply is indicated by the trend of numbers, and to finance the surplus removal by levying a processing tax on the livestock during years of relatively small supplies and high prices. The trend of market supplies of cattle and sheep can be determined a year or two in advance with a fair degree of accuracy, by the changes in numbers of breeding stock retained on farms and ranches. The edible products obtained from surplus removal programs could be disposed of through relief channels or exported. In addition to the stabilizing influences of more uniform market supplies, the application of the processing tax in years of relatively small marketings, would tend to stabilize prices which in turn would make for more orderly production.

Another approach to stabilization of cattle and sheep production would be the development of a land conservation program in the West through the prevention of over-grazing. Steps are now being taken by the Department of the Interior, in cooperation with the Forest Service and the Agricultural Adjustment Administration, to work a coordinated grazing policy with respect to the better use of our nationally owned grazing lands. If such a program could be enlarged to include state owned and privately owned grazing lands in the western states, an effective means would be provided for controlling livestock production in that area as well as conserving national resources. About 52 percent of the United States lamb crop, and 15 percent of the calf crop are produced in the western range states.

How could a feed-grain program be financed? One method of financing would be to levy a processing tax on livestock and livestock products, and use the funds so derived for making adjustment payments to producers who contract to keep feed-grain acreage within certain specified limits. This would require an amendment to the Agricultural Adjustment Act. Under the present Act, benefit payments must be made on the commodities upon which a processing tax is levied.

Another method would be to apply the principle of the Bankhead Act for cotton, and the Kerr-Smith Act for tobacco, to feed-grains, by placing a substantial tax on the supply in excess of the maximum quantity desired. A penalty device of this sort becomes more essential to the maintenance of participation in adjustment programs as price advances create stronger incentives to expand production, but it is necessary for most of the producers to be in favor of the plan if it is to be administered successfully. It is of interest to note that in referenda participated in by cotton and tobacco producers held this month, the cotton growers voted in favor of the Bankhead plan in

a ratio of about nine to one, and the tobacco growers approved the Kerr-Smith Plan by a majority even larger in the case of certain types of tobacco, but final results are not available for all types. It should be recognized, however, that in both cases, the penalty tax plan is accompanied by a voluntary adjustment program, including benefit payments and processing taxes. There has been no test as yet of the reaction of producers to an application of a penalty tax plan exclusively.

All of the commercial supply of both cotton and tobacco moves through processing channels. This enables the penalty tax to be levied at the point of first domestic processing. Since most of the feed-grain supply is used for the production of livestock, it would be necessary to place the penalty tax on production rather than on processing. For instance, if the total acreage planted to feed-grains on a particular farm was in excess of the allotment for that farm, the penalty tax might be levied on the production of the excess acres. Placing the tax on production rather than sales or processing would make the problems of assessment and collection more difficult. Such a plan for inducing cooperation in a feed-grain program would require additional legislation and the whole-hearted support of feed-grain producers.

Even if a plan were developed which would keep livestock production adjusted at the most desirable level, whether it be accomplished by one or more of the methods outlined above, or by some other method, it would fall far short of solving all of the economic problems of the livestock industry. Although the prevention of market gluts and famines would improve the economic position of livestock producers, the fact remains that the most important factor affecting total returns from livestock is the ability of consumers to purchase livestock products.

Consumer buying power for meat is related directly to industrial production, since the latter largely determines the total income of industrial workers, who consume the bulk of livestock products entering commercial channels. Industrial production, and meat and lard production, (as measured by dressed weight of livestock slaughtered under Federal inspection) are shown in terms of index numbers from 1924 to date in the upper half of Figure 2. It may be observed that meat and lard production has fluctuated within relatively narrow limits during this period. The maximum range is from 8 percent above the 11-year average in 1924, when we were at the peak of a major hog slaughter cycle, to 5 percent below average in 1932, when cattle slaughter was at the bottom of a cycle. Industrial production, on the other hand, made a precipitous decline from 1929 to 1932. The close relation between the income of industrial workers and the total cost to packers for livestock slaughtered under Federal inspection is shown in the lower half of the figure.

It is apparent that if industrial production had not declined from 1929 to 1932, the acute livestock surplus problem would have been much less severe. But the curtailment in industrial production and income, while livestock production was being maintained, resulted in livestock prices declining much more than prices of industrial products during the same period, thus greatly impairing the exchange value of

livestock as well as causing an unprecedented absolute decline in prices. Some improvement in industrial workers' income and the demand for livestock products occurred in 1933 and 1934, but it represents only a small percentage of the sharp decline from 1929 to 1932. Market supplies of livestock in 1934 were only slightly smaller than those in 1933, but marketings in 1935 will be sharply curtailed.

Livestock producers should have as much interest in the efforts to bring about industrial recovery as in their own adjustment programs. This is especially true for 1935, since excessive supplies have been eliminated and future major improvements in the economic status of the industry will occur only as a result of an increase in the purchasing power of the consumers of livestock products. Furthermore, a revival of industrial activity would warrant a greater expansion in livestock production from present levels, thus making livestock control programs less important.

The efforts being made to restore international trade are also to the interest of the livestock industry. Exports of livestock products since the War have been confined almost entirely to pork and lard, and the export trade on these products has been greatly diminished. The decline has been due in part to increased European hog production, but a major casual factor during the last 5 years has been the adoption of an increasing number of international trade restrictions. High import duties, quotas or exchange regulations have stifled exports of hog products to every important importing country. As the Secretary of Agriculture has pointed out repeatedly, a permanent restoration of our foreign markets will necessitate a sharp reduction or removal of these international trade barriers. We cannot expect to recover our foreign trade without a substantial increase in imports, and this will require a reduction in import restrictions in the United States. The recent foreign trade agreement with Cuba was a step in this direction. Under the terms of this agreement, Cuba reduces the duty on American lard, wheat flour, pork, automobiles, and many other products, and the United States reduces the duty on Cuban sugar, tobacco, vegetables, and several other products. A revival of foreign trade not only would benefit livestock producers through an expansion of foreign outlets for hog products, but also would contribute materially to industrial recovery, which would be reflected in the demand for meats and fats.

Because of the many factors that affect the income from livestock, which vary in importance each year and are largely unpredictable, any future national programs dealing with livestock must be kept flexible enough to permit such adjustments from year to year as are found desirable. Most every year some unusual and unforeseen situation develops that affects the industry materially. Facilities for dealing with these situations as they arise are essential to national planning. It is quite probable that emergency programs of the Agricultural Adjustment Administration will constitute an important part of the activities of that agency as long as it exists, even though the administration of more permanent adjustment programs may become the major function.