FEED-GRAIN PROGRAM
by J. Carroll Bottum

To the extent that the feed-grain program has reduced the supply of feed-grain and raised or supported the price of feed over what it would have been, it has reacted to the economic advantage of the beef cattle industry. It has increased the demand for beef and the total income to the beef industry partly at the expense of the concentrate-consuming livestock enterprises of hogs and poultry.

Feed grains make up a higher proportion of the feed inputs for hogs and poultry than for beef cattle. Therefore, when the price of feed grains rises costs of hog and poultry producers increase relatively more than those of cattle producers. Thus the feed price rise checks the expansion of these enterprises more and leaves less pounds of pork and poultry to compete with beef. Cross elasticity of demand studies indicate that a pound of other red meat and poultry has 40 to 50 per cent as much affect on the price of beef as another pound of beef. Therefore, a decrease in the supply of these competing meats increases the demand for beef.

Producers of feeder cattle have often looked with economic concern upon programs that raised the price of corn. It is true that for any one year a rise in corn prices may weaken the demand for feeders. Nevertheless, over the longer period, higher priced corn gives cattle producers an economic advantage over hog producers. For example, if the price of corn could be cut in half, hog producers would get a larger share of the total meat market than now.

The impact of a feed grain program on the beef cattle industry takes on meaning only in relation to the impact of some other course of action to meet the farm surplus problem. Therefore, let us look at the total farm problem and the impact of the feed grain program as compared to the impact of other farm program alternatives.

In this analysis I assume that there are interactions between the agricultural and non-agricultural sectors of the economy, and interactions between land and other resources, and between individual crop and livestock enterprises. I recognize that a dynamic situation is involved, that there are further interactions arising from increasing capital and technology in production and marking, and from changes in total demand and in consumer preferences.

The Nature of the Surplus Problem

During the past decade, agricultural output has increased at the rate of

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approximately 2.6 per cent per year. Because of our growing population and improved diets, the domestic demand has increased slightly less than 2 per cent per year. Neither increased foreign exports nor new industrial uses of farm products have closed this gap. This leaves us at the beginning of the decade of the 1960's with an agricultural plant geared to produce from 5 to 6 per cent more products than the present market will take at acceptable prices as expressed by Congress on numerous occasions.

The real problem of agriculture is not the 7 to 8 billion dollars worth of agricultural products in storage, although this aggravates the situation and increases the cost of farm programs. Rather it is that we have an agricultural plant geared to produce each year 5 to 6 per cent too much.

Two events in recent years have been largely responsible for bringing about this problem.

Near the close of World War I the rate of gain in agricultural output per farm worker began to exceed the rate of gain in population. This made possible for the first time an absolute decline in the number of farm workers. The rate of gain in agricultural output per worker relative to the growth in the population has continued since that time. It increased at an accelerated rate during the 1950's and continues to result in surplus human resources in agriculture despite the rapid flow of human resources out of agriculture.

At the beginning of the 1950's the rate of increase in yields of crops per acre began to exceed the rate of increase in the population. During the decade of the 1950's yields of crops per acre increased on average by one-third; demand for food to feed our growing population increased about one-fifth. It takes fewer acres to feed the population today than in 1950; therefore, we now have a surplus of a second resource, crop-land.

This surplus resource situation holds true for each of these resources. Unless new outlets are found for farm products, the optimum combination of resources at any acceptable level of prices involves both less human resources and less cultivated land than are now committed to agricultural production.

Because these resources have not moved out of production in sufficient degree, the output of agriculture has tended to outrun demand for farm products at prices socially acceptable. The demand for total agricultural production is very inelastic. Thus farmers are penalized severely when supplies exceed a level which reasonably meets requirements. This tendency for agriculture to overproduce since the 1920's except for the war and postwar periods is the heart of the agricultural price and income problem.

With present expected trends in the adoption of new technology, this
situation appears likely to extend through the 1960's unless through our education or action programs we modify this situation.

The substitutability of resources in agriculture is sufficiently great that a reduction of output of one commodity or even several commodities results in the resources being transferred to the production of the non-limited commodities. Thus, the farm income and price problem is an aggregate problem. Attempting to solve it on a partial basis simply results in its being transferred from one group to another group of commodities.

**Possible Approaches**

There are three possible approaches that might be taken to aid in solving the farm problem: (1) expand outlets for farm products, (2) store food and make payments to farmers to relieve the income situation, and (3) adjust the output.

Nearly everyone would like to solve the farm problem by expanding foreign outlets, by using more farm products in industry and by expanding the food consumption at home. If this could be done, then agriculture would not have to adjust its output, and we could continue full production with reasonable prices. Nearly all analysts of the farm problem believe we should continue to work vigorously for the expansion of the market for farm products both at home and abroad. But they see expansion of the market as only a partial solution of the farm problem in the immediate period ahead. In the longer run, these possibilities may become more important.

By putting commodities into storage and by making payments to farmers for shifting production or for other purposes associated with production, we may ease the current income situation for farmers. However, unless the payments are made in a manner which brings about adjustments in supply, they simply relieve the income situation for the moment and continue the maladjustment problem. In fact, if too large operations are undertaken, they tend to increase the imbalance problem. This is what we have been doing. Thus the imbalance in agriculture has continued to increase even though many necessary adjustments have taken place.

The third possibility is to try to adjust the supply or the resources in agriculture while maintaining farm income. This is the area where legislation will continue to be considered.

Here four approaches may be taken or some combination of them:

(1) The use of quotas or supply management control on all commodities.

(2) Allowing free prices to operate.

(3) Compulsory or mandatory land retirement.
(4) Voluntary land shifts or land retirement.

The limitation on capital inputs has been also proposed, but no serious program has been developed along these lines because of the difficulty and implications of limiting the various capital input items. Proposals for reducing the human factor have taken the form of providing better facilities for making the transfer out of agriculture rather than directly limiting this factor.

If any of the above four approaches is used for adjusting supply, it results in reducing both the manpower and the cultivated land used in agricultural production.

If quotas are imposed on part of the commodities, then the surplus resources are transferred to other commodities and necessitate quotas on these commodities. If commodity quotas are imposed on all commodities and production is reduced, this means less human resources and less land used in crop production. If free prices are allowed to operate, then agricultural prices will fall to the point where the marginal crop land and the marginal producer will shift out of agriculture, thereby reducing the use of these resources. If compulsory or mandatory cropland controls are used, it means less land will be under cultivation and less human resources will be needed. Even if the land is taken out of each farm, it will speed up the recombination of farms and the reduction of both of these resources. If voluntary land retirement is used either on a partial or whole farm basis, it, too, will reduce the land under cultivation and the amount of human resources needed in agriculture. It should be recognized that all of the supply adjustment programs seriously proposed to reduce the use of crop land and human resources. Therefore, let us look at the feed-grain program, which is a voluntary land retirement program and what it has done. Then let us compare its impact on the cattle industry with the other approaches.

The 1961 and 1962 Feed-Grain Program

As a result of the feed-grain program and the conservation reserve program, farmers reduced feed-grain output in 1961 and 1962 below annual utilization. In addition to the acreage reduction represented by acres put into the conservation reserve they reduced the acreage in feed-grains by 19 million acres in 1961 and by 24 million acres in 1962. Thus, the total of 105 million acres of feed-grain harvested this year was 24 million acres below the 1959 and 1960 average, the base period for the feed-grain program.

This reduced total feed-grain supplies on October 1, 1961 approximately 5 million tons below the previous year. Supplies were reduced another 13 million tons on October 1, 1962. Corn production was 3.6 billion bushels in 1961 and 3.5 billion bushels in 1962 while utilization for the average of the two market years approximated about 4 billion bushels.
With loans for those complying with the program set at $1.20 per bushel for corn and with the corn released operation financing the program, the free market price at the farm was held at around $1.00 per bushel. Other feeds have been held in line with corn.

The Feed-Grain Program Compared to Other Alternatives

In appraising the impact of the feed-grain program on the beef cattle industry in relation to other programs, one must make certain assumptions relative to the price and income goal for agriculture. In this comparison I am assuming programs which would hold livestock prices near the averages of 1961 and 1962 and at the same time move modest quantities of grain out of storage annually. I further assume that the land retired from production would not be pastured. Allotments would continue on cotton, tobacco, rice and wheat. Livestock prices would be expected to continue at such levels as to provide the normal livestock feeding ratios and to fluctuate at competitive relationships with each other. I would further assume that we would continue our programs to maintain and expand markets at home and abroad.

Such a goal could provide agriculture with a net income in the immediate period ahead of around $13 billion compared with 12.7 billion in 1961. This is approximately in line with the goal set forth by the Secretary of Agriculture. A goal much higher than this would probably result in part of the gains being capitalized into land. Under free prices during the adjustment period it is assumed the income would be considerably less than this.

If instead of the feed-grain program, we had continued a purely price support program which had held corn prices near the same level, as with the feed-grain program, the impact on the beef cattle industry would have been the same as with the feed-grain program. However, stocks of corn held by commodity credit would have been much larger. Such a program would not have been continued indefinitely because of the increase in feed stocks. If it is assumed that at some later date the stored feed would be fed to livestock, then the beef industry would be in a less favorable situation than with the feed-grain program, under which land retirement kept the feed from being produced.

If we had gone to a compulsory feed-grain program without payments, then feed-grain prices would have had to be held 5 to 10 per cent higher than with a voluntary feed program in order to give feed producers the same income. This would have been because the producers' volume of production would be decreased without any offsetting payment for retiring the land. This greater restriction of production and higher price of feed grain would have given the beef industry more advantage than the present voluntary feed program and more than under the free prices.

If presently held government stocks had been held off the market and free prices had been allowed to operate, there would have been a substantial drop in farm prices according to three different studies. Feed prices would
have been lower, resulting in an increase in competing meats and a lower demand for beef. Beef production and feeding would also likely increase in the feed-grain areas. After the longer run adjustments were made under free prices, the price of corn would probably be lower relative to cattle than under a feed-grain program and other meats would continue more competitive than under a feed-grain program.

No analysis is being made of a quota control program for all livestock because, (1) such a program in the period immediately ahead does not seem likely, and (2) such an analysis would require many assumptions as to how such a program might be administered.

**Longer Run Considerations**

We have now an agricultural plant of 450 million acres of crop land in the United States. Numerous analyses show that we can meet our needs with 50 to 80 million less acres of land in crops. Every realistic proposal to bring agricultural production into better balance with demand results in less acres in harvested crops, including the proposal of free prices and no program.

Studies show that an acre of cropland shifted to grass and used by beef cattle produce about one-third as many calories of food as when it is in a grain crop and fed to concentrate-consuming livestock. Thus production can be reduced two-thirds as much by shifting cropland to grass and using the grass as by idling the land.

The demand for beef in the United States has been increasing at from 3 to 3.5 per cent annually.

While for a time we may leave the land retired from crops idle, I would hazard a guess that eventually some of this cropland will find its way into pasture, timber and recreational uses. This is likely to happen either with or without a farm program or under any of the proposals.

If this shift should occur, the beef industry does not need to fear it. Every acre shifted from grain production to pasture will decrease the supply of competing meats sufficiently to more than offset the increased beef supply. Roughly every time cropland is shifted to grass and is used by beef cattle, the supply of competing meats is reduced by three pounds for every one pound increase in beef. In terms of the cross elasticity of demand and the effect of the total smaller supply of meat, this means a higher price for beef. For example an acre of good corn belt land which will produce 80 bushels of corn per acre, will supply the feed for 900 pounds of live hog production. Figuring 75 per cent dressing percentage this will make 675 pounds of pork and lard. If this same acre is placed in pasture with equally good management it will produce 300 pounds of live cattle. Figuring a 60 per cent dressing percentage this will make
180 pounds of beef. Thus, the food product per acre with beef is less than one-third as much as with hogs. For the United States the production of calories with grass and beef is about one-third as much as with grain and hogs or poultry, the grain consuming livestock.

SUMMARY

1. Government programs will likely result in a reduction in the amount of land in harvested crops.

2. If none of this land is used for grazing, the beef industry will benefit at the expense of hogs and poultry when compared to no program.

3. If the land shifted out of crops is allowed to be grazed, the beef industry will be better off than if the land remained in crops.

4. It would appear that the present feed-grain or cropland adjustment program has economically benefited the beef cattle industry.