

CHAPTER 7 Fitting Livestock Into the Farm Plan

ALTHOUGH THERE ARE OTHER REASONS, most livestock farmers prefer that kind of farming because it gives them a chance to make more money. Livestock farming is not tied so closely to once-a-year production and therefore gives the farmer more opportunities to put extra capital into use than crop farming. He may have idle capital he wants to put to work, or he may want to borrow extra money with the hope of making an extra profit.

Or the farmer may have extra ability that is not fully used in raising crops. Livestock farming will make use of that extra capacity. The farmer may think about it something like this: Suppose he operates a one-man farm and has a good set of machinery. About 1,000 hours of work a year probably is all that is needed to raise and harvest his crops. Maybe 200 or 300 hours more takes care of the odd jobs about the place. If he is an ambitious man, he won't be satisfied with so little work to do. Moreover, it takes a man of unusual ability to make a good living for his family if he works only 1,200 hours a year.

Weather hazards being much greater with crop farming, the farmer may figure on reducing the risks of farming by adding livestock. However, disease hazards, probably greater with livestock farming, may nullify this reduction.

Starting the Livestock Plan

The livestock plan is only a part of the total farm plan and should always be considered with the whole plan in mind. A good livestock plan, like a good crop plan, helps the whole farm business to be more profitable. The resources of capital, labor, and skill that go into the livestock plan are part of the farmer's whole supply of these resources. They cannot be considered separately from other parts of the business and other interests of the family. The farmer is interested in getting the maximum from the total resources used, not a separate maximum from those used in livestock production.

A place to start is to size up the farmer's own situation. He may well give thought to his personal qualifications or lack of them as a livestock manager; his knowledge and skill; the size and type of livestock business he is fitted to manage at the present time. True, he can add to his knowledge and skill from time to time. But, for the present, he must take the situation as it now stands.

Next, he should size up the situation as to things other than himself, such as the following:

1. The present and potential amount and kind of feed grain, hay, and pasture available for a livestock program. How dependable will the supply be from year to year?
2. How easy or difficult is it to buy additional feed "worth the money" in his particular location.
3. How much capital and credit does he have to put into the livestock business, and what are his special skills or likes in relation to this capital?
4. Does he have enough labor already at hand for the size of livestock program he has in mind? If extra labor must be hired, what about the supply, cost, usual skills of workers, and the housing situation?
5. What about his tenure? If he is a renter, can he safely plan for several years ahead or for only one year at a time? If an owner, how suitable is his farm as a livestock unit? What about its size, general layout, and adaptability to the livestock program he has in mind?

6. Are livestock buildings, feed storage, water supply, and fences adaptable to a wide range of livestock plans, or are they designed for a special situation? Can they readily be fitted into an efficient chore system or is the arrangement an unhandy one? How are they from the sanitation standpoint?
7. Are there any special market advantages or handicaps in his situation for a particular livestock enterprise? Is the farm located in a city milkshed area; is there pick-up truck service for eggs; is it on a private road that is difficult to maintain? These are examples of special advantages and disadvantages.
8. What about the price outlook? Is this a good time to expand a particular kind of livestock program or not? Has the latest outlook publication been studied with care?

It is taken for granted in this discussion that the farmer knows a good deal about the limitations and advantages that go with the particular area he lives in. Chapter 2 gave a description of the general advantages of the various type-of-farming areas in the Midwest.

Look Around Your Community

In nearly all areas, the more alert farmers already know the kind of livestock enterprises that fits their particular location. Most of the farming enterprises that have proven to be successful are in use by many farmers in any locality. It is always wise for the farmer to put this knowledge to use. A man who wants to operate a farm in a radically different way than his neighbors had better go slow unless he has the capital to risk or has had successful experience elsewhere.

Livestock Put More Resources to Use

If a list is made of the extra resources that a farmer might employ handling livestock, it would look something like this:

1. Use of the farmer's time that might otherwise not be well employed. Perhaps family or hired labor is available that could be used to advantage.
2. Use of additional capital that might profitably be put to work, whether capital of the farmer or borrowed capital.

3. A supply of feed grain that might be marketed at a higher price if fed to livestock than if sold on the cash market.
4. Good quality roughage that may not have a dependable market.
5. Lower grade roughage that probably could not be sold for cash in any case.
6. Buildings and equipment on the farm that are not productive unless used for livestock.
7. Ability and skill on the part of the farmer that is not well used if only crops are produced.
8. Special market advantages that may be available in the vicinity, but which can be capitalized on only by having a livestock program.
9. The larger productive capacity of the farm in crop production if livestock are kept.

On many farms, full use of such resources as these means the difference between having a good income for the family and a mediocre one. However, some men and some farms are better adapted to a cash crop system. The wise manager appraises the resources and opportunities at his command and then acts accordingly.

There are also other factors to which some give a good deal of weight. For example, some farmers take much more pride in being successful with livestock than they do in raising crops. The greater opportunity for family members to work together, which livestock farming offers, appeals to many people. Children often take more interest in helping with animals than they do in working with crops. On farms having medium or lower grade land, or farms that are quite rolling, livestock farming may be a "must" to be successful.

Resource Needs of Livestock Enterprises

Before going further, it will be wise to study the resources needed for various livestock enterprises. Tables 34 and 35 show the resources of various kinds needed to bring in \$1,000 gross income from several kinds of livestock. The gross income is taken after deducting the cost of any livestock purchased—feeder

TABLE 34
RESOURCES NEEDED TO RETURN \$1,000 IN ONE YEAR FROM LIVESTOCK
CORN BELT CONDITIONS—1939-43 PRICES

	Dairy Herd	Dual-Purpose Herd	Beef Herd Calves Fattened	Feeder Cattle
Number needed:				
Milk cows.....	6	5	1	.....
Stock cows.....	.....	2	9	.....
Young cattle.....	8	7	10	20
Production secured:				
Gain on cattle.....	2,500 lbs.	5,190 lbs.	7,920 lbs.	7,200 lbs.
Butterfat.....	1,600 lbs.	990 lbs.	200 lbs.	.....
Prices received:				
Live cattle, cwt.....	\$10.80	\$10.80	\$11.80	\$11.60
Milk, cwt.....	1.95	.....	.....	.....
Butterfat, lb.....	.39	.39	.39	.....
Income and feed cost:				
Total Income.....	\$1,000*	\$1,000†	\$1,000	\$1,000‡
Feed and pasture cost...	570	650	750	780
Remainder\$.....	\$ 430	\$ 350	\$ 250	\$ 220
Income per \$1.00 of feed and pasture cost.....	\$ 1.76	\$ 1.53	\$ 1.33	\$ 1.28
Land needed to produce feed||				
Corn.....	3.0 A.	7.5 A.	12.0 A.	16.0 A.
Silage.....	2.0 A.	1.5 A.	1.5 A.	1.2 A.
Oats.....	4.2 A.	5.0 A.	1.5 A.	1.6 A.
Total grain.....	9.2 A.	14.0 A.	15.0 A.	18.8 A.
Hay.....	8.5 A.	8.0 A.	7.5 A.	4.7 A.
Pasture.....	17.0 A.	17.0 A.	25.5 A.	5.0 A.
Total acres.....	34.7 A.	39.0 A.	48.0 A.	28.5 A.
Protein feed needed††.....	3,000 lbs.	2,500 lbs.	1,600 lbs.	3,100 lbs.
Labor needed, hours:				
To raise feed crops.....	180	215	240	240
To care for livestock.....	780	750	280	240
Total.....	960 hrs.	965 hrs.	520 hrs.	480 hrs.
Capital for livestock and equipment**.....	\$ 820	\$ 950	\$1,250	\$1,350
Buildings needed for the livestock.....	Barn for cows Pens for calves; Shed for heifers.	Barn for milk cows; Pens for small calves; Shed or barn for stock cows, and young cattle.	Shed or barn, cows on one side, feeding cattle on other.	Shed or barn.

* Includes \$270 income from the sale of cattle and calves. The value of skim-milk fed is included in the income on farms selling cream.

† Includes \$54 for value of skimmilk used for livestock feed.

‡ A margin of \$1.45 per hundred pounds was secured between the buying and selling price of the steers at the farm. The cost of the steers has been deducted.

§ This is the amount left for labor, shelter, interest on the investment, other expenses, risk, and profit.

|| Crop yields per acre: corn, 50 bu.; oats, 45 bu.; silage, 8 T.; hay, 2 T.

†† The cost of the protein feed is included in the total feed cost.

** This does not include permanent buildings.

TABLE 35
RESOURCES NEEDED TO RETURN \$1,000 IN ONE YEAR FROM LIVESTOCK
CORN BELT CONDITIONS—1939-43 PRICES

	Hogs	Chickens Mainly for Eggs	Turkeys for Meat
Number needed.....	6 litters	500 baby chicks	360 poults
Number needed.....	40 pigs	235 hens	.....
Production secured:			
Gain in liveweight.....	9,600 lbs.	2,100 lbs.	5,210 lbs.
Eggs laid.....		3,055 doz.	.....
Prices received:			
Live animals or birds.....	\$10.50 cwt.	15c lb.	23c lb.
Eggs.....		25c doz.	.....
Income and feed cost:			
Total income.....	\$1,000	\$1,000*	\$1,000†
Feed and pasture cost.....	606	515	530
Remainder‡.....	\$ 394	\$ 485	\$ 470
Income per \$1.00 of feed and pasture cost.....	\$ 1.65	\$ 1.94	\$ 1.90
Land needed to produce feed§			
Corn.....	12.2 A.	5.1 A.	3.1 A.
Oats.....	3.9 A.	6.7 A.	6.0 A.
Hay.....	0.2 A.	.....	.....
Pasture.....	2.0 A.	1.0 A.	2.4 A.
Total acres.....	18.3 A.	12.8 A.	11.5 A.
Protein feed needed||.....	2,400 lbs.	7,000 lbs.	12,000 lbs.
Labor needed, hours:			
To raise feed crops.....	140	80	55
To care for livestock.....	200	570	200
Total.....	340 hrs.	650 hrs.	255 hrs.
Capital for livestock and equipment††.....	\$320	\$450	\$530
Buildings needed for the livestock.....	Movable houses or central house, feeding floor is handy, not essential.	Hen house free from drafts; movable brooder house.	Brooder house and field shelters.

* Includes \$233 from the sale of chickens above the cost of baby chicks. 260 pullets are needed to put in the laying house in the fall to average 235 for the year. Death loss: young chickens, 13 per cent, hens 15 per cent. Eggs per hen, 155.

† Death loss is 16 per cent. The cost of poults has been deducted.

‡ This is the amount left for labor, shelter, interest on the investment, other expenses, risk, and profit.

§ Crop yield per acre: corn, 50 bu.; oats, 45 bu.; hay, 2 T.

|| The cost of protein feed is included in the total feed cost.

†† This does not include permanent buildings.

steers, for example, in case of feeding cattle, or turkey poults where turkeys are the enterprise—but no feed costs or other expenses are deducted. Prices used are the 1939-43 average. By using other prices, these figures can be changed to those any individual farmer may want to use. The farmers from whose records these figures were taken all had reasonably good livestock skill. The rations used for their livestock were balanced or nearly so.

Points About the Tables

“Production secured” shows the physical amount of production from the number of head indicated. It is the amount available for sale or for adding to the business. In dairy herds, part of the animal gain was sold as veal calves, part as cull cows, and some as breeding stock. In dual-purpose herds, part of the young animals were fattened to a medium to good grade before sale. With beef cow herds, the calves were fattened for six to ten months after the calves were weaned. An occasional cull cow was also sold. In these herds, usually one cow in ten was milked, and this milk is included. The figures used for feeder cattle are a cross-section of several grades of cattle and lengths of feeding period. With chickens, non-laying hens were culled from the flock throughout the year and the remainder were sold in the late summer. They were replaced by pullets in the early fall. Turkeys were all sold in the fall or winter since they are raised only for meat production. With hogs, both spring and fall pigs were raised. Old sows were fattened and sold along with other hogs.

“Price received” was the actual selling price at the farm during this period. Feed prices averaged as follows: corn, 65c per bu.; oats, 41c per bu.; protein feeds, \$2.00 to \$3.00 per cwt. depending on the kind; silage, \$4.80 per ton; legume hay, \$8.20 per ton; pasture was priced in relation to hay depending on the kind and quality of pasture, good bluegrass being about \$3.50 per acre.

“Capital investment” includes breeding and young stock, and special equipment such as a milking machine, feed bunks, movable hog houses, brooder houses, water fountains, and similar items. It does not include permanent buildings, fences, or equipment such as a manure spreader.

"Returns per \$1.00 feed fed" is obtained by dividing \$1,000 by the total feed and pasture cost of the enterprise. If \$1.00 is subtracted from this figure, the remainder is the gross percentage received over feed cost. This margin must cover labor, shelter, equipment, miscellaneous costs, and profit if any.

"Labor needed" is at the rates shown in Chapter 5 for moderate mechanization.

Livestock Enterprises Vary

The wide range in the proportion of grain and roughage used by various kinds of livestock is evident from Tables 34 and 35. The figures show that nearly 90 per cent of the feed needed by hogs comes from grain crops. Hogs can use some pasture, but not very much. They need comparatively little labor and operating capital; both of these are strongly in their favor. They do not need specialized housing as poultry. A hog house, barn, shed, or even a straw shelter will do.

Chickens and turkeys are most like hogs in the high proportion of grain they use. But they require much more purchased feeds. Most farms do not raise many of the several specialized kinds of protein, mineral, and vitamin feeds needed for efficient poultry production. Also, poultry require specialized buildings, which are not so easily converted if the farmer changes his plans. Chickens require a lot of labor, but turkeys not so much. The labor figure for turkeys is for flocks of 1,500 birds or more, a rather large scale enterprise.

Dairy and dual-purpose cattle use a lot of roughage. But they take a large amount of labor, too. The barn, milk room, feed, and water supply must be laid out in a handy fashion if the labor load is to be reduced as much as possible. A man has quite a lot of capital tied up in permanent equipment when he has all this accomplished. If the farmer lives in a city milkshed area, he may have to follow special building regulations as well. The labor requirement is the thing that goes against the dairy herd on a larger farm. A lot of farm people, though, like the fact that the income from dairy and dual herds is rather steady and dependable.

Plenty of capital and feed are the things that stand out in the case of cattle feeding. No doubt most farmers have already noticed that cattle feeders are nearly always medium to large

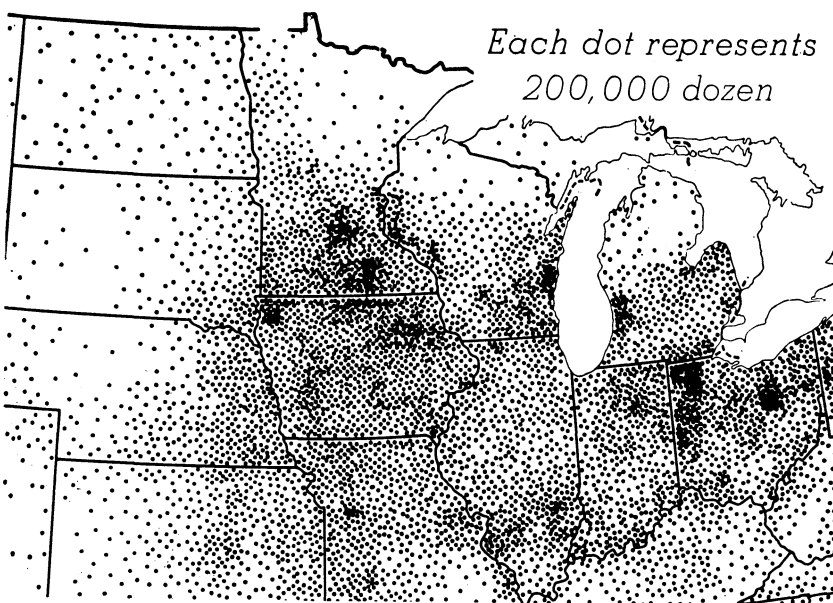
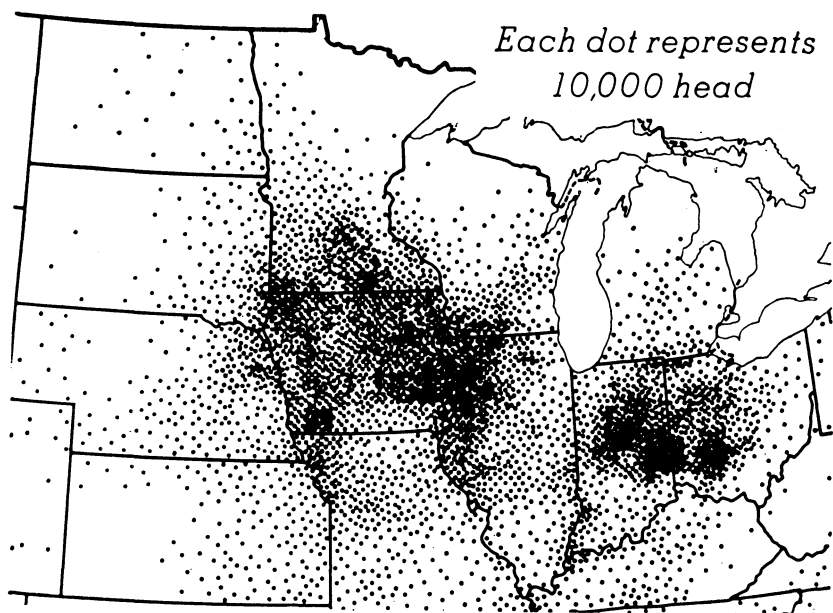


FIG. 39—The central Corn Belt is the intensive hog raising area (top map—hogs sold, 1939) except for some cash corn areas such as east central Illinois and a few other spots. Chickens kept for egg production (bottom map—eggs produced, 1939) are well scattered over the Midwest but numbers are larger at the northern edge of the Corn Belt. *Bureau of Agricultural Economics.*

scale commerical farm operators. The reason is easily seen. Note that in cattle feeding, the margin over the value of the feed fed is not very wide. This, also, is typical of the business. It shows where some of the risk of this enterprise comes in.

Beef cow herds use the most hay and pasture—and a lot of capital, too. But they do not require as much risk as feeding cattle. A modest return over the value of the feed fed with beef cow herds is typical in beef raising.

Livestock and Land Use

Another way to summarize these livestock enterprises is to relate the use of grain to that of hay and pasture. That is done below.

In looking at these figures, it is clear why dairying is found where there is plenty of hay and pasture and less grain, if the area is one where pasture is quite productive and of good quality. Dual-purpose herds are much like dairy herds, except that less milking is done and more grain is used by the young stock in fattening them for market. With the beef cow herd, also, much hay and pasture is used. The roughage for beef cow herds need not be as high in quality as with milk cow herds.

With feeder cattle, the emphasis begins to shift. Large amounts of hay and pasture may be used, but grain takes the dominant place. The shift is even more evident with hogs, turkeys, and chickens.

Farmers Handle Enterprise Differently

Of course, variation is found among farmers as to the rations they use, and the total amount of feed that they give their live-

TABLE 36
USE OF GRAIN RELATED TO USE OF HAY AND PASTURE

	Land For		
	Grain	Hay	Pasture
	(Acres)	(Acres)	(Acres)
Dairy herd.....	10	9.2	18.5
Dual-purpose herd.....	10	5.7	12.1
Beef herd, calves fattened.....	10	5.0	17.0
Feeder cattle.....	10	2.5	2.6
Hogs.....	10	0.1	1.2
Chickens.....	10	.....	0.8
Turkeys for meat.....	10	.....	2.6

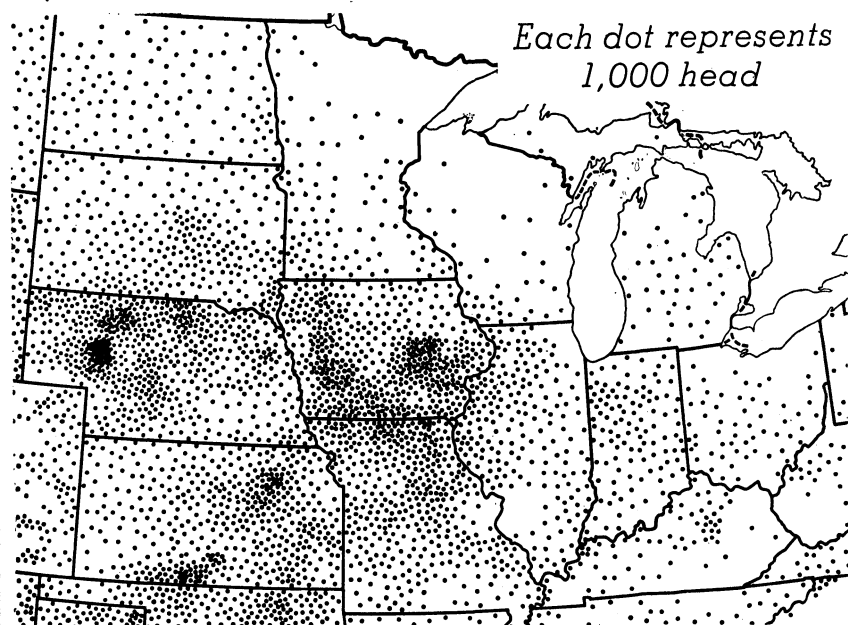
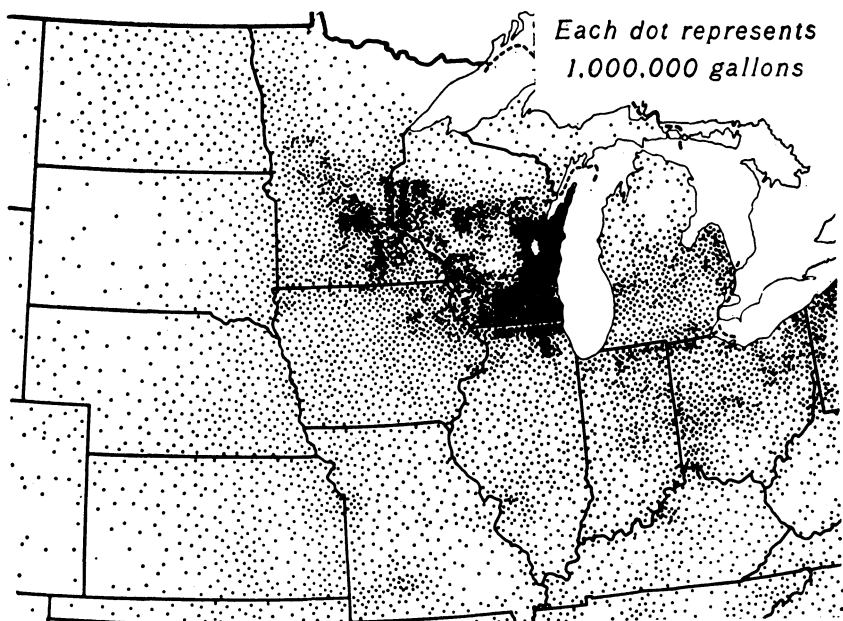


FIG. 40—While milk is produced in all parts of the Midwest, dairying has the greatest advantage compared to other enterprises in an area centering in Wisconsin (top map—milk produced, 1939) and in city milk sheds. Beef cattle raising fits best in an area from Iowa to the south and west (bottom map—beef cows, 1940). *Bureau of Agricultural Economics.*

stock. Some dairymen use more roughage and less grain than is shown in these tables, while others do the reverse. Much depends on the farm supply of the various kinds and relative prices of feed. Cattle feeders can use a wide range of choice in the rations they feed. Some farmers get a large share of the cattle gain with roughage, others with pasture, while still others depend largely on a grain deal. With hogs and poultry, much less choice in rations is possible since these animals are not adapted by nature to consume large quantities of roughage.

Beef cow herds where the calves are sold for feeders or the calves carried over on roughage and grass and sold as yearlings take somewhat different treatment. More cows would be needed and the herd would require more pasture and hay land to bring in \$1,000 at the same price level. Much less grain would be fed. In the Plains Area, little grain, if any, might be fed to cow herds. Probably about 10,000 pounds of animal gain would be needed to bring in \$1,000 at 1939-43 prices since stockers and feeders sell for less per pound than grain fed cattle.

Sheep flocks vary greatly depending on the circumstances. On many farms in the Corn Belt and General Farming Area, the small flock of sheep pick up odds and ends of grass about the place, and are fed out of the regular feed supply only during the winter and spring. In that case, very little pasture would be charged directly to them. If a larger flock is kept, sheep consume mostly pasture and hay unless the lambs are fattened out in the feed lot. This is not often done on the farm or ranch where the lambs are raised.

Fattening western lambs requires more hay and less grain than fattening steers, and lambs are somewhat more efficient in the use of feed. But sometimes the death loss is much higher. Usually, fewer pounds of liveweight gain would be needed to bring in \$1,000 gross than in the case of feeder cattle.

Margin Over Feed Varies

In the previous tables the feeding margin shown is an average of a five-year period. However, one of the most rapid price changes that takes place in Midwest farming is the relation between feed prices and those of livestock and livestock products. The margin over feed cost received by Midwest farmers in feeding livestock over a period of years are shown in Figure 42

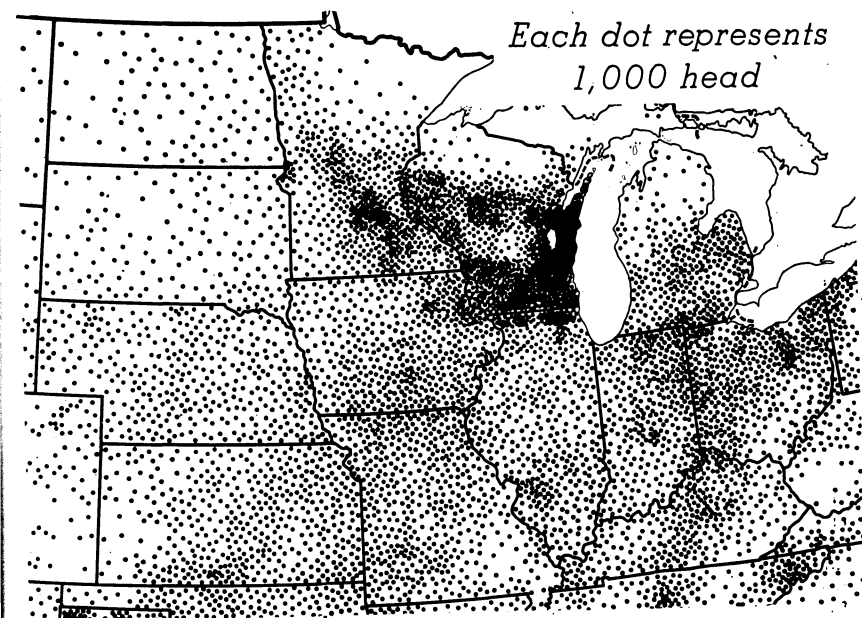
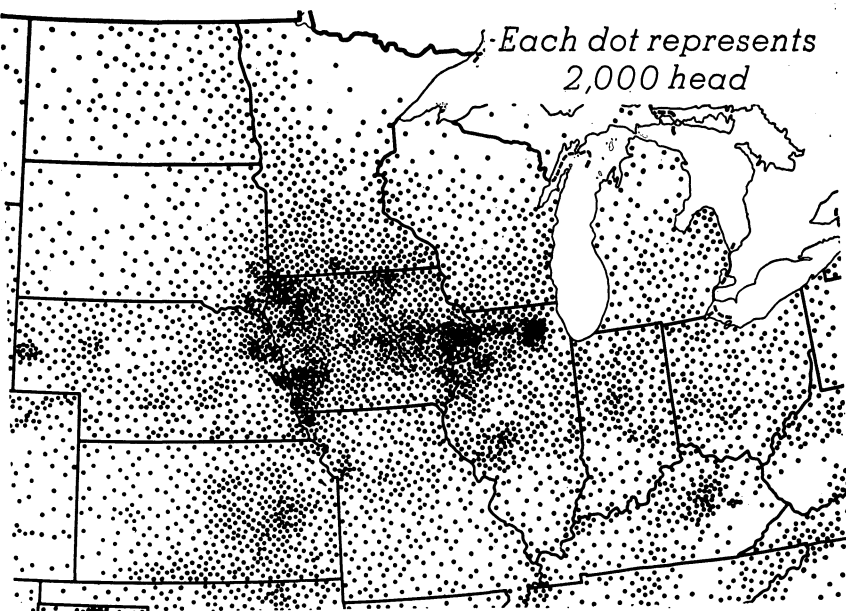


FIG. 41—More cattle are sold from livestock feeding areas (top map—cattle sold, 1939) than elsewhere and include cattle raised there and those shipped in for feeding. The sale of calves is heaviest from dairy areas (bottom map—calves sold, 1939). Note difference in the number of head each dot represents. *Bureau of Agricultural Economics.*

Keep in mind that the feeding margin must cover all costs other than feed; labor, housing, equipment, veterinary bills, use of capital, risk, and—if possible—leave something for profit. No by-products such as manure are included in income. But all direct income from the livestock enterprise is included.

Keeping in mind the low labor and capital requirements, the favor that farmers give to hog raising in the Midwest states is easily explained. Dairy herds have a consistent record of a good feeding margin. But labor and other costs are rather high. As one would expect, cattle feeding has an uneven record. Chickens pay well, but are preferred as a supplementary enterprise on most Midwest farms, not a major one. The narrow margin over feed cost from beef cow herds points out the need for keeping costs down if a profit is to be realized.

These, again, are average figures. Many farmers, whose planning and management are superior, get a wider margin over feed costs than those shown. But, by the same token, many farmers have poorer results than those shown here.

Table 37 shows some of the usual relationships between feed and other costs for various kinds of livestock.

Location of Livestock Production

The several maps accompanying this chapter show where livestock production of various kinds was carried out on a major or minor scale in 1939. In reality, these maps picture the combined judgment of the thousands of Midwest farmers. They show the results of decisions of farmers in total about the num-

TABLE 37
RELATIVE COSTS OF PRODUCING LIVESTOCK *

Enterprise	Percent of Total Cost That Is		
	Feed	Labor	Other
Dairy cows.....	55	22	23
Hens.....	55	20	25
Dual-purpose cattle.....	60	20	20
Sheep flocks.....	65	12	23
Beef breeding herd.....	65	10	25
Broilers.....	67	10	23
Hogs.....	80	7	13
Lamb feeding.....	85	8	7
Cattle feeding.....	85	5	10

* Source: Farm Management Department, Purdue University.

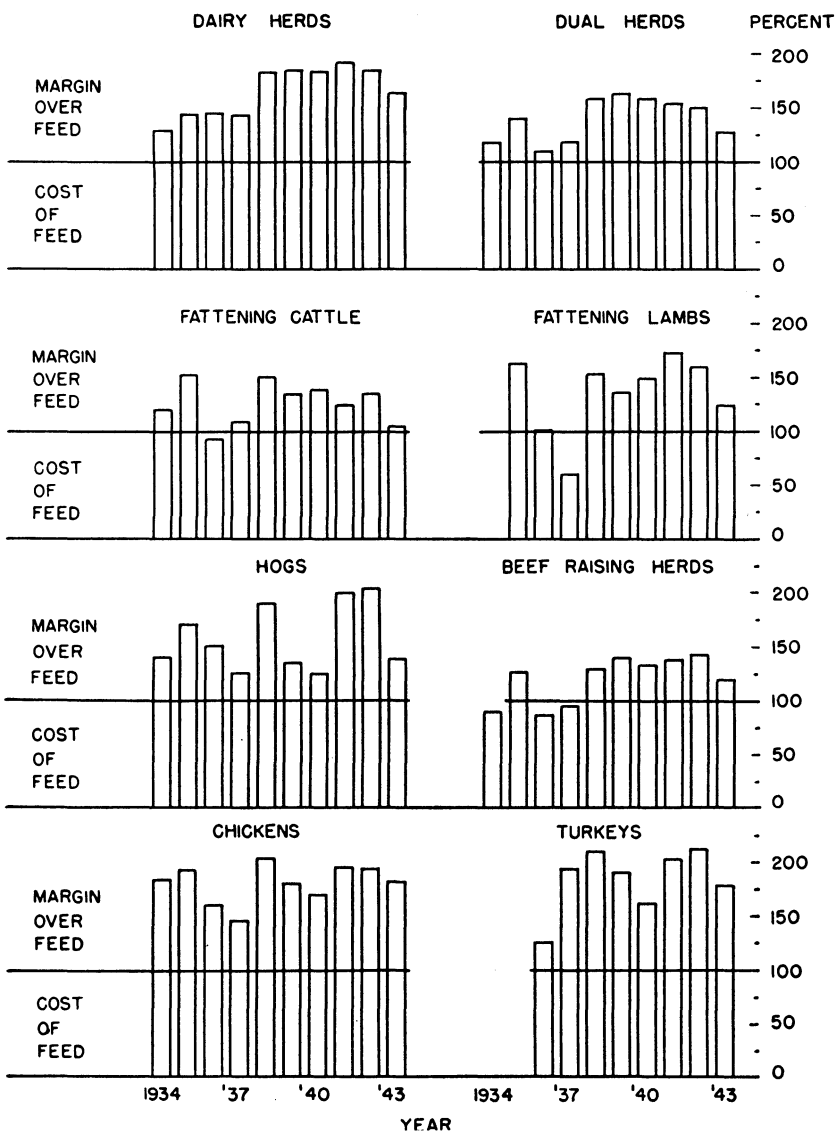


FIG. 42—Livestock feeding margins on Midwest farms, 1934–43. Note two things on the chart above: where feeding margins are widest; where they are most stable. But keep in mind the big differences in labor, capital requirements, and cash costs, none of which are pictured here.

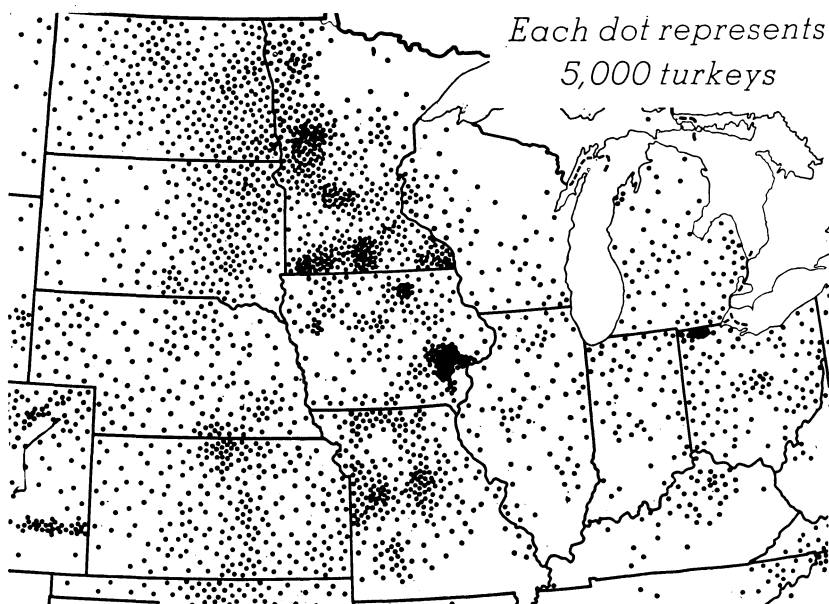
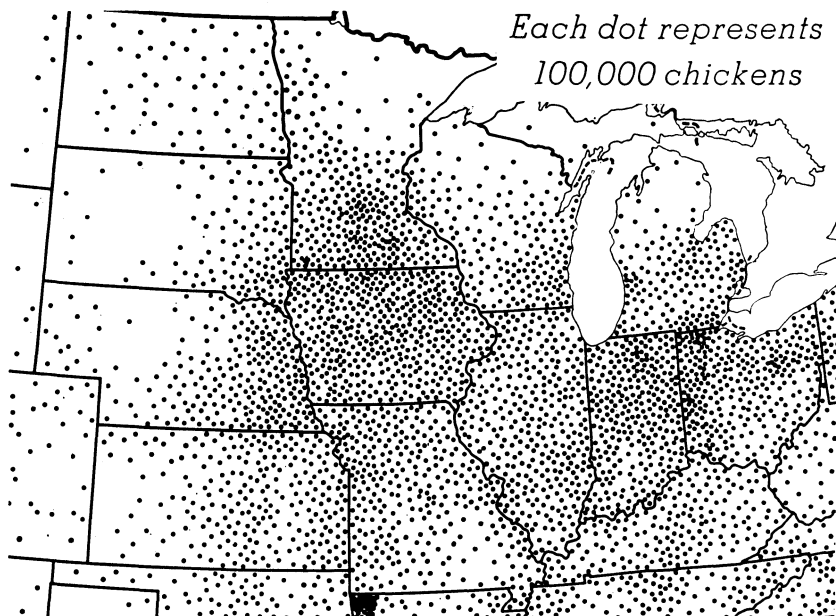


FIG. 43—Most Midwest chicken raising (top map—chickens raised, 1939) goes along with the keeping of a hen flock for egg production. A broiler producing area is shown in northwest Arkansas. Turkey raising (bottom map—turkeys raised, 1939) is more specialized, a flock of 1,500 to 3,000 birds being a typical unit on a family farm. Other turkey areas have developed since 1939. *Bureau of Agricultural Economics.*

bers and production of livestock that, in their judgment, gave them the best livestock plan at the time this census was taken. It is possible that they were in error to some degree. But they were the choices that farmers as a group then made. These maps should be related to the crop acreage maps of the previous chapter as well as to knowledge about weather, price, and demand conditions of that period.

How Large a Livestock Enterprise

Is there a minimum size of livestock enterprise that is needed to be profitable?

Some will tell the farmer that he should keep fifteen or twenty head if he wants to make money with milk cows, or else have only two or three cows. Others will tell him that 300 or 400 is the minimum size for a profitable hen flock, or he should be satisfied with thirty or forty hens. The argument is that labor income is too low on in-between size enterprises.

To study this question examine the effects of various sizes of enterprises on a farm business. Take for example a poultry enterprise—the guiding principles about choosing the size of enterprise will be the same for any kind of livestock.

A man and his wife are trying to decide on the most profitable size of poultry enterprise on a family farm. They own a Corn Belt farm, have good crop land, and a typical supply of grain feed. The wife has time to do some outside work and wants to help increase the family income. The hen house on the farm is of medium size—for 150 hens.

First, suppose no chickens are kept. This means the wife's ability to manage chickens will not be used. Also, the hen house cannot be efficiently used for any other purpose. So two resources on the farm will not be well used. In addition, eggs and chickens for the family table must be bought out of other income. It may be that the wife's time can be employed in helping with the milking, or other farm work. But her husband usually manages that part of the business so the wife's management skill will be idle even though some of her labor is used.

Next they consider raising 100 chickens and keeping thirty or forty hens. Now, some of the wife's time is used for the poultry enterprise. The chickens can make use of table scraps and other feeds that might be wasted even though this does not make a

very efficient ration. But it will be a cheap one. Eggs and chickens for the family table are produced with very little cash outlay and there will be a small surplus for sale. Most of the income from the chickens is a clear gain even though the labor required per dozen eggs or per pound of chickens raised will be rather high.

A medium size flock is considered next; the raising of 300 to 400 chicks and keeping 150 hens. This makes full use of the henhouse but does not require very much additional investment. Now the enterprise adds quite a little to the cash income of the farm as well as provides for the family table. The work and management can be handled by the wife except for a few of the heavier jobs. Moreover, the enterprise is large enough to make it worth-while for the wife to develop her skill in poultry management. If she does, the total management skill being applied to the farm business by husband and wife together has been increased.

To get better results with this size flock some additional resources will be needed for poultry. Probably they will add a brooder house and other brooding equipment to the investment. They may even want to add a bit to the size of the hen house to bring the flock size up to 200 or so. Quite a bit of farm raised feed must now go to the poultry enterprise, feed that probably could have been used elsewhere. But the enterprise is of a size where many of the better poultry practices can well be used.

With this size of enterprise, a considerable share of the income is a net gain over what it would be with a smaller flock. In other words, the enterprise is mostly in the stage of being *additional* to the farm business. However, it is *competitive* to some degree for feed, capital, and possibly for labor. But it is large enough to justify the development of additional management skill.

A fourth choice might be to keep a flock of some 400 to 500 hens and raise some 700 to 1,000 chicks. Now the enterprise is too large for the wife to handle alone. Some of the time and management skill of her husband must be diverted to the poultry enterprise. This means that he must take some of his time and skill away from something else if he is already fully occupied at other work. More capital is needed, too; for chickens, feed, equipment, and housing. The capital put into poultry housing must be committed for a good many years since a poultry house

cannot readily be shifted to another use if the plan does not work out well. The extra capital put into the poultry business might have been added to some other enterprise. Also, the chickens are now important users of the farm supply of feed.

With a flock of this size, the poultry enterprise goes beyond the point of being *additional* to other parts of the business. That is, it requires the use of more resources than those that would otherwise be idle or only partly employed with no chickens or a small enterprise.

A flock of this size is becoming *competitive* for the extra feed, capital, labor, and management needed. These extra resources could have been put to work in raising more pigs, milking more cows, feeding more steers, or the like.

Finally, the family might consider a large commercial flock, perhaps 1,000 to 2,000 hens and a corresponding number of young chickens. In this case, chickens would be a major livestock enterprise on the farm. Looking after this many chickens is sure to absorb so much of the farmer's time and skill that he must put a large part of his effort into the poultry part of his business. Thus it crowds out many other things that he might do instead.

Even so, a chicken enterprise of this size may be his best choice. If the farmer, after looking at all the various opportunities open to him in the future, decided that he could make more profit from his resources by keeping a large poultry flock than from anything else, that would be the right decision to make.

Don't Depend on a Rule-of-Thumb

What, then, is the "best" size of livestock enterprise to be profitable? The farmer must first ask himself if a particular size is largely additional to the other enterprises or competitive with them. Does it "go along with" his other enterprises or not? Does he have a more effective use of his total resources by using a particular size of enterprise? If the size already is in the competitive area for the use of labor, skill, and capital, he must decide where to expand to the best advantage.

It will not take a farmer very long to see that rules-of-thumb about the "best" size of an enterprise are almost sure to be misleading. As a business man he wants to keep all of his resources employed where they pay best, not just where they make a profit.

For the farm family, in the case above, no chickens at all or a very few chickens failed to make use of the wife's time and skill to the best advantage. For another family the work of caring for a small flock might have been all the time the wife had to use. When a large flock was considered, questions had to be answered about the best use of the farm operator's time and skill as well as capital and risk. It is the net income from all of the farm family's skill, labor, and capital that is of most concern, not income from the labor, skill, and capital used for any one purpose.

With chickens as with any other enterprise the best size is the one that fits the particular farm situation. The best size may be large or small or somewhere in-between. Each farmer must examine his own problem and find his own answer. If following rules-of-thumb was all that a farmer needed to be successful, most everyone could quickly find the right answer.

Enterprise "Labor Income" Not a Good Guide

Study of each individual livestock enterprise on the farm is worthwhile. More efficient ways can often be found for using feed, capital, and labor whatever the size of the enterprise.

But the points above warn against the error of using the study of the labor income from a single enterprise as a basis for decisions as to how large it should be. If the enterprise is of a competitive size in the farm business, attempts to increase the labor income of one enterprise by making it larger or spending more time on it may turn out to be at the expense of some other enterprise. The income from the whole business must always be used as a guide to efficient management.

The business analysis of farms in the Midwest made by farm management departments have turned up many cases where one enterprise was getting a lot of the farmer's attention at the expense of some other. When a farmer brags about the good results he gets from one kind of livestock, it might be that he is doing other things so poorly that he is losing more elsewhere than the extra he is making on the enterprise he favors. The *law of diminishing returns* from too much concentration of work or capital applied in one place catches up with many a farmer. Nor can the problem be solved once and for all. Questions about the best size and combination will come up again and again.

Fit the Livestock to the Man and the Farm

A preliminary estimate can now be made of how to fit livestock into the farm plan.

Any size and type of livestock farm might be analyzed as an example. Suppose a small family farm in the eastern half of the Corn Belt is chosen.

The man with a smaller size farm, having quite a little pasture and hay and not so much grain, will see some of the things he should or should not do in planning the livestock program. His biggest problem is lack of volume of business. Perhaps finding a way to increase his cropland acreage and feed grain supply would be his wisest move. This may not be possible. If he has a good milk market, he will choose either dairy or dual-purpose cattle. If the choice is a dairy herd, he will depend on milk for the main part of his cattle income. If he has skill with milk cows, he will likely choose a dairy herd as they respond better to special skill than does a dual-purpose herd.

The dual-purpose herd farmer gets about half of the cattle income from dairy products and the other half from the sale of cattle. He needs somewhat more grain than the dairy herd farmer to fatten his young stock well enough so they will sell above the grass fed grades of beef. Likely his milk cows will be somewhat less efficient users of feed than good dairy cows. So he must be careful not to overfeed them—get much of his milk from good roughage and pasture.

More than likely, he wants quite a few hogs. They require less capital and labor than most other stock. They can go to market in less than a year after the sows are bred. If grain is reasonable in price in the community, he may buy a good deal of extra grain so he can raise more hogs. If he has skill with hogs, he can nearly always produce them with a good margin of profit in terms of total resources used.

Probably the family will have a flock of chickens. Family is the right word because keeping chickens is nearly always a family affair. Not much hard labor is involved in their care so the wife and children can help. Young chickens take quite a bit of "looking after" when they are small. This is in the spring when the farmer is busiest with his field work. He usually can't afford to take time from the field to look after them during the day. If the wife is interested in chickens, she can do this work

as well as the man. Hence the chicken flock on most Midwest farms is of a size that the wife can supervise this part of the work. In the winter, the man can take care of the hens along with the other chores. Chickens also require a good deal of capital investment, especially the central hen house. So a flock of 150 to 300 hens is a common size of enterprise.

The smaller size Midwest livestock man, then, is likely to be a dairy-hog-poultry farmer or a hog-dairy-poultry farmer for the

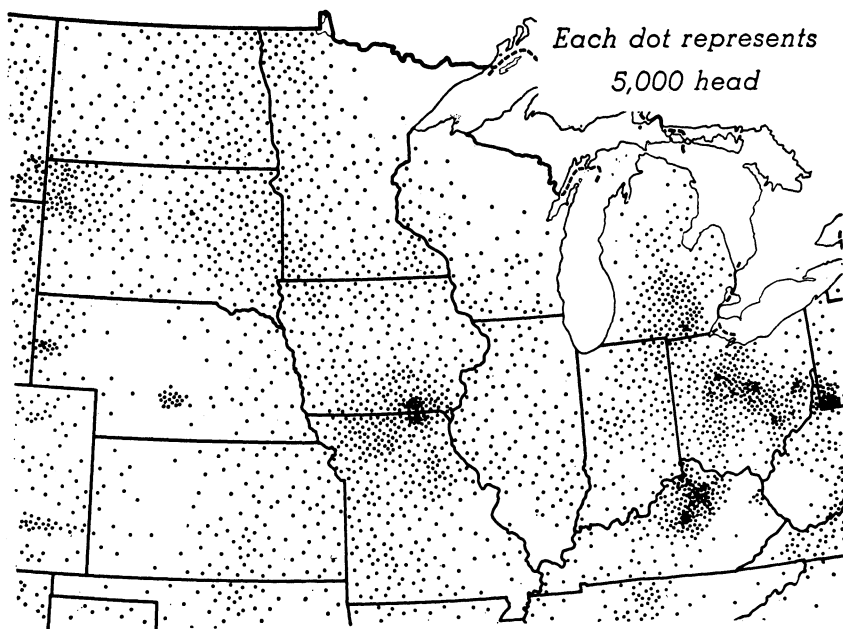


FIG. 44—Sheep on farms, 1940. Sheep raising is a minor enterprise in the Midwest and is seldom a major enterprise on farms where a sheep flock is kept. *Bureau of Agricultural Economics.*

reasons discussed above. He may grow a few acres of some cash crop like tomatoes to add to his income if he has the labor to handle them.

The size of business he should have and the combination of enterprises used should be guided by the principles discussed in Chapter 3. He will try, as best as he can, to make the maximum use of the resources at his command. If he is inclined toward buying a good deal of feed to maximize his income, this will get

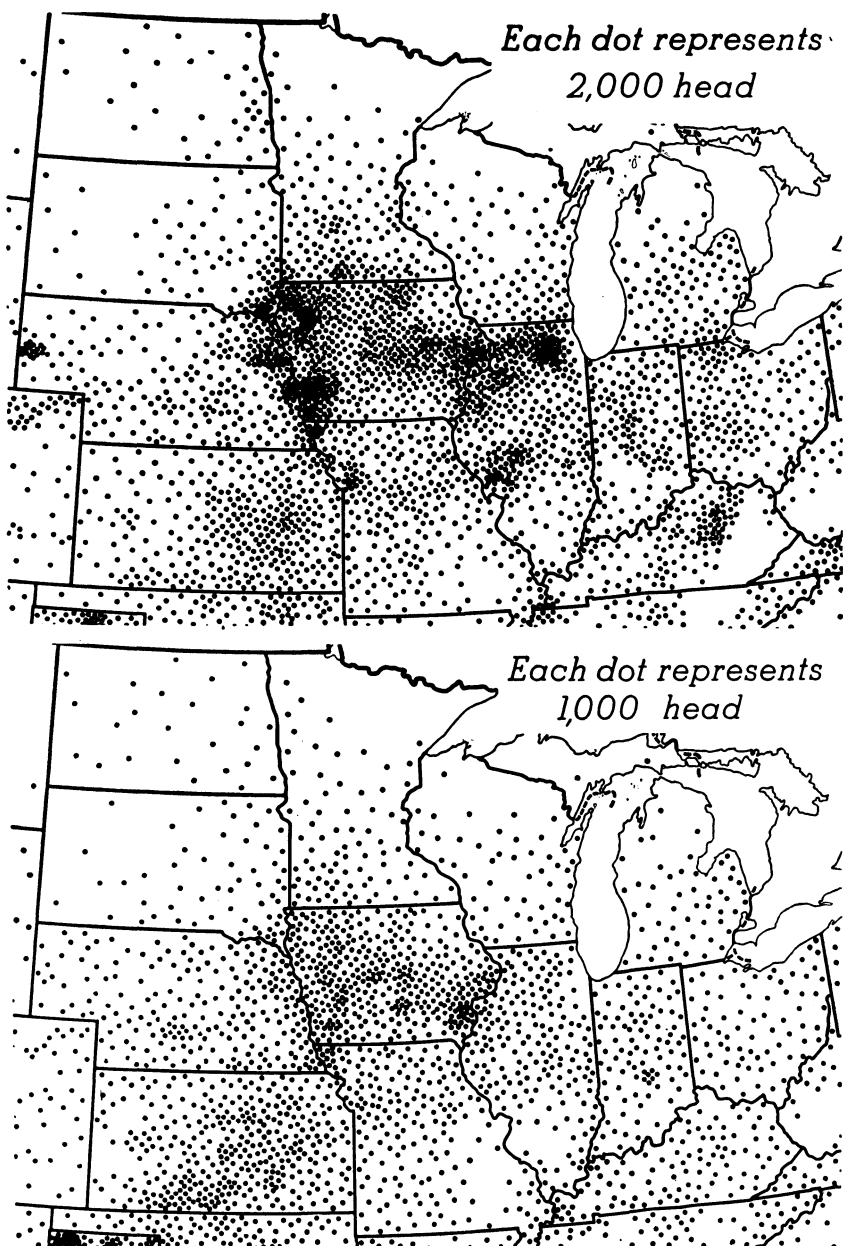


FIG. 45—Although large numbers of cattle are bought by farmers in the intensive cattle feeding areas they are bought by less than one farmer in four (top map—cattle bought by farmers, 1939; bottom map—calves bought by farmers, 1939). Breeding cattle and calves bought by farmers are included in the charts. Note the difference in scale. *Bureau of Agricultural Economics.*

TABLE 38
HOW LIVESTOCK ENTERPRISES COMPARE

Type of Enterprise	Dependability of Income	Quantity of Capital Needed for			Level of Skill Needed for			
		Main Herd	Movable Equipment	Permanent Buildings and Fencing	Buying or Selling	Feeding	Breeding	Disease Control
Dairy herd.	Very good	Above average	Moderate	Large	Average	Above average	Average	High
Dual herd.	Good	Above average	Moderate	Above average	Average	Average	Average	Average
Beef herd.	Good	Large	Small	Moderate	Average	Average	Above average	Average
Feeding cattle. . .	Uncertain	Large	Small	Moderate	Very high	High		Average
Sheep flock.	Good	Above average	Small	Moderate	Average	Above average	Above average	High
Lamb feeding. . .	Uncertain	Large	Small	Small	Very high	Very high		High
Hogs.	Good	Moderate	Moderate	Small	Average	Average	Average	Above average
Chickens.	Good	Moderate	Moderate	Large	Average	High	Average	High
Turkeys.	Uncertain	Moderate	Above average	Small	High	Very high	Average	Very high

a good deal of attention. If he is more conservative, or extra feed is not readily available, he will give more attention to being more efficient in the use of his land for crops and in the use of feed for livestock. That is, with a limited acreage and less volume, it is more important to get high yields per acre, but with an eye on money costs, and a large output per animal as compared to feed used.

Such a farmer usually is in the position of being long on one resource—labor—and short on land and perhaps capital. If so, he tries to find a more effective use of his most plentiful resource—labor—either by adding more capital in the form of additional livestock and feed or by using the kinds of crops and livestock that will pay for a more intensive use of labor applied to them.

The Larger, Rougher Farm

The farmer on the larger, rougher farm seldom will look to milk cows for the solution to his problem. He is long on land compared to labor so is not looking for a labor-intensive enterprise. He might consider dairying if he has a special market for dairy products and other opportunities look less favorable. But even then, the chances are that his pasture and roughage supply far exceed his labor supply. So he looks for roughage-consuming livestock with a low labor requirement that consume a lot of what he has to sell—pasture and hay. Most likely, a beef cow herd is the answer. He might consider buying steers to graze. But that kind of a program requires a lot of capital to market a relatively few dollars worth of hay and pasture. Most likely, the farmer's comment would be, "It isn't worth the risk." Beef cows require a large amount of capital, too, but the risk is fairly low and the farmer isn't engaged in large scale buying and reselling operations as he is with steers. No doubt he would fit hogs, a few milk cows, some chickens, and perhaps a flock of sheep into the livestock business. If he has special skill with sheep, these could be expanded to use more of the roughage.

The Farmer With More Feed

The farmer with a good supply of grain, hay, and pasture has many alternatives. The answer as to why many different types of successful livestock farming are found in the central Corn Belt Area lies in the fact that a large and varied feed supply is found on these farms. Such a feed supply permits farmers to

choose from a large number of different livestock combinations, many of which can be quite successful.

Guiding Principles

Some of the principles that guide the setting up of the livestock program should be clear by this time. Among these are:

1. The farmer should maximize the use of the resources he has available to him. These are feed and other resources from production on the farm, resources of feed or livestock available for purchase, resources of managerial skill, labor, capital, and special marketing opportunities or unusually favorable price situations.
2. The livestock and crop program should fit well together rather than be in competition for the farmer's time, managerial skill, capital, or land.
3. The size of the livestock business and risks should be in keeping with price conditions and the skill and capacity of the manager.
4. The man who is able to obtain better than average margins between feed and other cash costs on the one hand and income per head of livestock on the other usually will do better to push for expansion in the size of his livestock program than for higher output per head. In other words, farmers who get the largest income in proportion to resources used are seldom the ones with a dairy cow herd producing 400 to 500 pounds of butterfat per cow annually, the feeders of prime cattle, the men who get 250 eggs or more per hen, and so on. If good profits per head are being made, profits come faster from expanding numbers than from more output per head. But don't overdo a good thing.
5. The principle of "getting equal pay from various enterprises from the last resource used," which was discussed in detail in Chapter 3, is especially important to livestock farmers.

The good manager continually compares the profit opportunity available to him from changing the size of each of his enterprises. A summary of the key points about the main kinds of livestock is shown in Table 38. It may help in relating the

manager and his capital to the essentials for success with each of these enterprises.

The usual management problems encountered in handling these nine common Midwest livestock enterprises are discussed in Chapter 8.