

CHAPTER 3 Money Making – The Management Problem

*A man must master his undertaking
And not let it master him.*

Armour

WHEN A FARMER TURNS TO THE management problem, he starts with the question: *Will it pay?* He thinks of his farm business as a unit, not as a series of separate enterprises. He still thinks about how to produce good crops, care for his soil, keep livestock, and get the most out of his machinery. But in his over-all management plan, these things are considered with only one question in mind: What effect will they have on my income?

If he's a wise manager, the farmer assembles for himself a sizeable "kit of farming knowledge" about good methods and practices for his area. He wants to know all he can about soils, crops, fertilizer, machinery, livestock, and so on. But when he uses this knowledge, he does his best to find out whether the practices that give the largest production also are the most profitable.

The farmer who develops the ability to think accurately of his farm as a unit is improving his management skill. He sees that each enterprise is related to every other. He knows that each enterprise on his farm could use more of his time and attention. He is aware, too, that all must be serviced by the same workers and that they must compete with each other for his supply of capital. But he makes money because he makes efficient use of the things he has to work with on the farm and because

he fits each enterprise into his management plan according to the profit it contributes to the whole farm business.

The Skillful Farm Manager

The capable farm manager makes and carries out decisions that result in the *largest continuous farm profit from the resources available to him*. The goal is not the largest profit possible in any one year, but *continuous profit*—continuous for the number of years that are important to the family.

Profit, of course, comes from wisely managed production, and it is net production measured in money value, not bushels or pounds, that counts. The larger the net production, the greater the profit. This key statement holds the clue to top-grade farm management.

Working toward a large continuous profit, however, does not mean that a farmer should go ahead and wear out his farm. Each farmer has a stake in the long-time future value of the capital he is using as well as in year-to-year income. Some men, in their desire or need for immediate income, use up capital that cannot easily be replaced—by letting the soil erode, for example. If they do, they have less capital to earn income for them in the future or to sell to others when they are through using it.

There are times when it is good business for a man to draw some capital from his land or buildings. And there are other times when it is equally good business to put capital back into the farm. Unfortunately, some people and some communities are short-sighted and exploit their farms. Rental agreements, for example, sometimes encourage the tenant to farm the land too hard. But these are errors in judgment—mistakes people make in not seeing clearly their own longer run self-interest.

A farming system carried on as a profit-making business will not in every case fully protect the long-time public interest in farm land. This part of the land use and conservation problem must be handled as a public rather than a private problem.

The wise manager, however, guards his capital investment. As farmers sometimes say: "Only a fool would eat his seed corn." Land is the farmer's seed capital and it is used by each generation as the basis for the farming business. The wise manager will "keep the land but use it too."

Combining Your Resources

To realize the largest possible continuous profit, the farm manager must make the best use of the resources available to him. These resources, or tools of production, fall into four classes:

1. Management
2. Labor
3. Land
4. Working Capital

The goal of the good manager is to fit together exactly the right amount of each of these four resources, then use them to get a maximum continuous farm income or profit from them.

He soon finds, of course, that he seldom can have all the resources he might want, mainly because they cost money. For example, if a farmer wants to use more land, he either must buy or rent it. If he needs more buildings or improvements, they also cost money. Perhaps he can rent them, but if he has to build he must plan to use them for many years. If more labor is needed, the farmer or his family must work longer hours, or workers must be hired. And if more machinery or livestock or feed is wanted, he must have money or credit to get them.

Obviously, if the farm manager is to get the highest possible return from his resources, he must use them with economy. Being economical does not mean doing without. It means using the resources wisely and effectively.

Resource No. 1: The Manager

The farmer himself is the manager on family farms. He makes the decisions as well as carries them out. If the business succeeds, he can take much of the credit. If it fails, a large share of the responsibility must be his.

In many farm families the wife contributes to management by taking part in the decisions. If so, the combined ability of the man and wife working together make up the "supply" of management. If at times the two disagree about certain decisions,

the management is less effective than it would be if one person acted alone. In such cases whatever decisions the two agree upon must be counted as the effective supply of management, however good or bad they may be.

On rented farms the landlord may share in the management. In fact, with father-son arrangements and stock-share deals the farm owner often takes a large part in the decision-making. If tenant and landlord work well together, the total management skill applied to the business will be greater than otherwise. But if they do not agree very well, their combined decisions may be poorer ones than either individual would make alone.

A person's quality and skill of management is extremely hard to measure. No one can be sure how much money-making ability he has until he tries himself out. The real test comes only by making and carrying out decisions.

Since the manager must take account of constantly changing conditions before he makes up his mind, management formulas or rules-of-thumb are of limited use. Some have said that good farm management is "doing the ordinary things better than most." This is wide of the mark. Good management is much more than using good practices.

Many farmers never become top-grade managers. But all of them can improve their decision-making skill if they are convinced that improvement is necessary.

Risk in Management

Part of being a good manager is learning how to cope with the risks or uncertainties of farming. There are two kinds: uncertain production and uncertain prices.

No one can know exactly how much crops will yield; whether grass stands can be obtained; how much feed will be needed to get a given amount of production from hogs or cattle; whether a heifer will be a good producer or a poor one; if flood, hail, insects, or disease will wipe out a growing crop.

No one can forecast exactly the prices for products to be sold or for those to be bought or the possibility that the general level of prices will change compared to the fixed costs of farming.

But wise planning will reduce these risks or uncertainties. There are some costs attached to reducing risks, of course, and

sometimes these costs are direct cash ones, such as vaccinating pigs against cholera. Other risk reduction costs are indirect, such as stocking a pasture below capacity for fear of a dry spell later on.

The farmer can reduce risk in two ways: (1) By obtaining more and better knowledge about the price and business outlook for the future, and more knowledge of good crop and livestock practices and the effects he can expect from them on his farm, and (2) By deliberately adding certain kinds of costs with the idea that he will gain more from the lower risk than it costs him to reduce it.

Examples of direct money costs to reduce risks are:

1. Taking out hail insurance on a crop.
2. Keeping and using a land roller to firm the seedbed and improve the chances for getting a new grass seeding.
3. Keeping a larger tractor or a second one to be ready for a backward season.
4. Insulating the hen house to reduce the effects of changeable weather on egg production.
5. Keeping extra repair parts or extra tools on hand "just in case."

Examples of indirect costs in reducing risks are:

1. Keeping a feed reserve on hand as a protection against a short crop instead of using the feed immediately to return a profit.
2. Breeding a few extra sows to be sure to have the right number to farrow. This protection takes extra feed and labor and reduces the income somewhat.
3. Feeding less cattle than the farmer would like rather than taking the bigger risk of larger numbers.
4. Keeping the business smaller than appears to be the most profitable size since borrowed money would be necessary to expand. Prices might drop later or a man might have bad luck and be unable to pay off his larger debt.

To decide whether to try to reduce his risk a farmer must answer two questions: (1) Is the cost of reducing the risk worth the possible gain? (2) Will the extra or partly idle resource—labor, more capital, extra cash, or whatever—used to reduce the risk pay better if used for some other purpose?

In some cases the answers are pretty obvious. The large hog raiser, for example, seldom fails to vaccinate his pigs. The possible loss from cholera is much more important than the small cost of vaccination. But many a cattle feeder hesitates to expand too much, even though he would like to feed more cattle. "It's too risky this year," the farmer will say. In his judgment the extra profit he might make from more cattle is more than offset by the risk of losing money.

Resource No. 2: Labor

When a farm manager thinks of his labor supply, he knows that the number of workers—himself, his family, and his hired workers—is just one measure. Another is their physical strength and stamina, and a third is the workers' skill. Some workers can do many jobs well, others only a few. Some have less skill but more persistence. "He's a steady hand but not very fast," the farmer will say.

The farmer may do all of his own work, his wife and children may help, or he may hire year-around or seasonal workers. But whatever his work plan, he must measure his supply of labor with these things in mind: number, physical strength, stamina, skill, versatility, persistence.

In addition to supply, the farmer must consider labor costs in his management plan—his own and his family's as well as those of his hired workers. Labor costs are a big item—the largest single cost in farming. On many farms at usual wage rates, labor accounts for half or more of all the costs.

Because labor costs are not uniform over the Midwest nor even from farm to farm, the wise farm manager analyzes his own costs in the four ways they vary:

1. Differences in wages paid to workers.
2. Keeping workers busy at useful jobs.
3. Whether the farm manager can direct the worker well.
4. Whether the farmer chooses the most important job for the worker.

Wages may be in cash or cash plus living quarters, board, or room and board. If the worker stays with the family, the inconvenience of having an extra person around the house may be an extra cost. For some, though, the additional person in the home actually may be an asset and reduce the cost of the worker to the farm business.

Whether the worker can be kept busy at useful jobs has a bearing on the cost of work done. Some farmers need an extra man part of the time but find that his time can't be used efficiently with only one set of machinery. In such cases, the wage rate may be fair enough but the cost of work actually accomplished may be too high. This type of problem occurs most where seasonal labor is needed.

Some men are unable to direct the work of another person in addition to themselves. For them hired labor nearly always proves too costly. They had better be content to run a one-man farm or learn how to manage for two before they hire much labor. Other farmers can manage two, three, or even more workers efficiently, but managers of this caliber are not common.

The fourth kind of labor cost occurs when two jobs need doing at the same time. Take the case of the farmer who has a good repair shop and takes pride in making his own repairs. He may often find himself doing repair work when he ought to give more time to his crops and livestock. In reality the "cost" of his own repair work may be far too high. He would make more money if he did his regular farm work better or added to the size of his business and hired his repair work done. There are times, of course, when it will be good business to make his own repairs. A good manager knows where his labor pays best and makes his plans accordingly.

Farmers commonly expect the workers they hire to be trained in doing many farm jobs. Very often they expect too much. A good manager knows whether his workers need extra training. An hour or so devoted to teaching a worker how to do a particular job benefits both the worker and the employer. "If the worker hasn't learned, the employer hasn't taught" is a good idea to keep in mind for the man who hires much labor.

"I always include the hired men in the family conference when I make out my weekly work plan," says a top-notch farm manager. "Then I work with them until I am sure they know

how to do right the job that is assigned to them." This farmer gets an unusually large output per worker. In addition he keeps his workers satisfied and is able to pay them above average wages. Both gain from the planning and extra training he gives them.

Resource No. 3: Land

Nearly three-fourths of the capital used in Midwest farming is tied up in land and buildings. Not only is the farm itself an important resource to farmers but it is less easy to change than the others.

The actual size of a farm cannot be measured accurately by its acreage, or even by its cropland acreage. Those figures are helpful, of course, but acreages do not mean a great deal unless something is known about productivity of the land. How much a farm will produce depends upon several factors: the ease of working the soil, the hazard of drouth, flood, or hail, the likelihood of erosion, the nature of the climate. For example, 100 acres of land in western Kansas and the same acreage in central Indiana might have the same *fertility*, but would be far different in *size* because of the difference in rainfall.

The kind of farming also is a factor in determining size. If livestock farming is to be followed, buildings, fences, and water supply must be considered. Too few buildings will be a handicap and so will too many. The first farmer is handicapped in producing income, the second one because so much of the income must go for building upkeep.

Still another measure of farm size is the ease or difficulty of renting additional land. Renting land is hiring the use of capital owned by someone else. Where additional land can be rented at a reasonable price, the size of farm is adjusted easily. In areas where little land is for rent, farmers find it harder to change their scale of operations. But a change in acreage is not impossible for the determined man.

Location of farm buildings, the convenience of crop and pasture land to them, access to all-weather roads, and distance from market are other factors to be counted in determining the size of the resource called the farm. And finally, after careful appraisal of all of the foregoing conditions, the current price of the farm compared to others must be considered.

Deciding whether to invest money in a larger or smaller farm unit is not a simple problem. Unlike feed or fertilizer, where one sack or more can be added easily to the business, land must be added in "chunks," for it is usually rented or sold in blocks of several acres at a time.

When renting land the farm manager not only adds acreage to his operations, but he also adds a landlord to his business dealings. And there are cases where the landlord is more of a problem than the land. In any event, both must be kept in mind.

When land is purchased it is common to take on a mortgage contract with it. In such cases, the annual cash outlay for the use of the land in future years is determined more by the terms of the mortgage contract than by the income the land is then producing.

The same kind of problem occurs when additional buildings are needed. Capital may be added to the farm as building investment because the farmer wants to expand. Later he may find that the expansion was unwise and he is left with an idle or partly idle building. The Midwest is dotted with barns, silos, and the like that are monuments to some farmer's unwise investment.

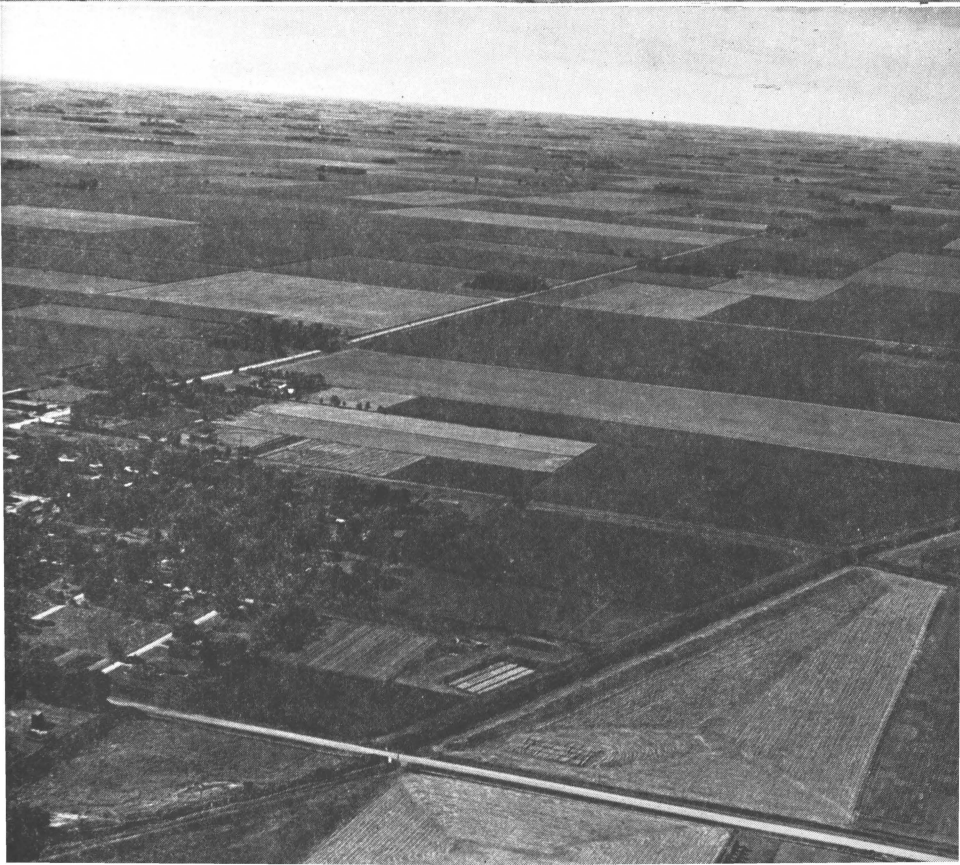
Resource No. 4: Working Capital

The farmer's working capital is made up largely of his tools of production: power, machinery, livestock, seed, feed, and so on.

On every farm, power is absolutely necessary, whether it is furnished by tractors, horses, mules, or electric motors. Field machinery and livestock equipment also are a must. So are cows, steers, sows, ewes, or hens on livestock farms. They are the living machines that process grain and roughage into other products. They too get old and wear out, the milk cow as well as the tractor. And because they do wear out, depreciation is an important part of their cost.

Feed on hand is another kind of working capital. While in the bin, mow, or silo, it is capital "in waiting." So is the combine that sits in the shed for perhaps 350 days of the year or more. How much capital that rests most of the time should a farmer have? How much of his capital should be the busy kind? And

FIG. 13—Land is an important source of farm income. The type of farming to which it is adapted varies widely as these two Iowa views show. Photos by "Parma."



what is the return on each kind of capital while it is busy? These are management decisions that each farm operator must make.

Most farmers do not have enough ready cash of their own to handle all their working capital needs, so they borrow money for some of their farming operations. When borrowed money is used, the judgment of the lender as well as the borrower is important in fixing the amount, cost, and terms of the loan. If the lender is to make wise decisions about lending, he must have full information about the business. And because it improves his credit standing, the good manager keeps his banker or other credit agency fully informed about his business and his plans.

Farmers often limit the capital they otherwise would use because of their doubts about future prices. For example, a cattle feeder might want to put a thousand dollars or so into more feeder steers to utilize his feed and labor supply better. But his doubts about the future prices of fat cattle may lead him to operate on a smaller scale when he balances the possibility of loss against that of profit.

As in any other business, financial risk always is a big problem in farming. In proportion to his income, a farmer must keep a lot of money tied up in working capital. If prices fall before inventory items are sold (corn, beef cattle, hogs, wheat, and so on), the profit the farmer expected is reduced, or he actually may suffer a loss. If on the other hand prices should rise, the farmer's return from a large inventory would be higher than he expected. Also adding to the financial risk of farming are long-time money contracts. The longer the contract period, the greater the farmer's risk that changing prices will endanger his ability to pay off the loan.

The Best Money-Making Combination

Once he has analyzed his resources and found what he needs, the farm manager must fit them together—himself, his labor supply, his farm, and his working capital—so that he makes the best possible use of them. "Best" means the use that makes the largest continuous profit.

FIG. 14—The use of capital increases the output per worker. The threshing machine added to labor efficiency in its day. The self-propelled combine and grain truck, here operated by father and son in Cass County, North Dakota, add to output per worker and farming flexibility. Photo USDA Extension Service.



If conditions didn't change there would be only one best plan for each farm. In real life, however, conditions do change so the best plan never is fully realized. Instead the good farm manager strives for a plan that is close to the best one.

To do that, the farm manager must first know how to go about finding the best plan under *fixed* conditions. Then he can apply that knowledge to his own farm problem and design a really good plan for his own set of conditions.

The next few pages contain the principles that will guide the farmer in setting up a management plan for his farm. It may be desirable to read them four or five times to be sure these principles seem clear. But farmers and other businessmen are paid well by greater profits if they understand the principles needed to guide them in making decisions. So persistence in learning them should pay handsome dividends.

Studying the Principles

Although the essentials of management cannot be learned in "one easy lesson," a simplified approach will help in studying the problem. The following four examples are designed to make the principles of good management easier to understand. The farm situation in this first simplified example is:

1. A particular farm manager is operating the farm with his present knowledge and decision-making ability.
2. Prices for all items that the farmer buys or sells do not change during the period covered in the example.
3. Uniform production results are obtained in every case of crop and livestock production.

Example One: Find the best possible plan for a farm adapted only to one enterprise: raising hogs. Production results on this farm always are exactly as follows:

- ▶ A sow produces seven pigs.
- ▶ A sow and litter consume 120 bushels of grain, 500 pounds of protein feed, one-fourth acre of pasture.
- ▶ A sow and litter need one 1-pen movable house and 30 hours of labor until marketed.
- ▶ A litter produces, at a profit, 1,500 pounds of hogs of market weight.

- On this farm more sows can be bred, more feed bought, houses and pasture can be rented, labor can be hired.

Problem: How many sows should the farmer keep to make the maximum profit: 20, 50, 100, 500, 1,000?

If conditions are exactly as stated, each sow added to the business brings in the same profit per head as any other sow. Actually there is no real management problem here because sow number 100 or 500 or 1,000 makes exactly the same profit as the first sow. *Under these conditions, the best number of sows for the farmer to keep would be determined by the largest amount of land, labor, feed, and houses that he could get together in the correct proportions.*

Any experienced farmer knows that this is not true in actual practice. He knows that as more and more sows are added, the returns from additional sows become smaller and smaller. The resource that stays the same is the manager. Of course the manager can hire more workers to feed the hogs, clean the houses, and so on. But the time and skill of the man who directs the business must be divided among more and more sows. The result is that as more and more sows are added, either they fail to produce 1,500 pounds of hogs per litter or they require more feed to produce it, or other problems arise.

Where does the farmer stop in this situation? *He stops when the income from the last sow added just covers the cost of raising that litter of pigs.* If he added one more sow, the last litter raised would be produced at a small loss. If he had one less sow, her litter still would add a little profit. So he should try adding another sow. When he got to the sow that just broke even, he could not add to his profit by adding another sow, and his profit would be smaller with any less sows. He would then have the best plan for his farm.

A similar example could be set up for a wheat farmer in the Plains Area. Suppose on this farm that:

- Wheat always produced just 12 bushels per acre.
- Five hours of work with machinery always is needed to raise and harvest an acre.
- One acre of land is needed to raise the wheat, and one-half acre is needed for fallow for part of next year's crop.

- Three pecks of seed are used to seed an acre.
- Costs and wheat prices are stable.

Problem: How many acres of wheat would the farmer raise—200, 500, 1,000, 5,000, 10,000?

As before, if each acre of wheat raised made exactly the same profit as any other acre, the farmer could go on increasing his acreage so long as he could get land, workers, and machinery to expand.

But as with hogs, the real situation is that the manager's ability to look after the business would be more and more diluted as he expanded in size. With fixed yields and prices, the farmer could expand wheat acreage a long way at a profit, but not indefinitely. In other words he should: *Keep adding resources (another man, a machine, more seed, etc.) until the income from the last unit of resources used, just equals the cost of using that unit. Do not stop any sooner than this; do not go any farther.*

Example Two: Here is a harder problem. Again assume a certain farmer. Again prices and costs are stable. Again he can expand by adding resources. But now the farm is one where:

- Hogs can be raised, cows milked, and steers fed.
- Only one amount of feed, labor, and housing is best for each kind of livestock to produce a given amount of hogs, milk, and gain on steers, as the case may be.
- The farmer wants to get the last possible dollar of profit.

Problem: How many sows, cows, and steers should the farmer keep to make the maximum profit? What proportion of one kind to the others? The farm manager now has two questions to answer: *How many? In what proportion?*

Each sow added to the herd returns the same profit as the previous one; the same is true for each additional cow and steer. Since sows, cows, and steers do not all eat the same kind of feed, need the same amount of labor per head, nor use exactly

the same kind of housing, the problem is to find the most profitable combination possible. (Changing prices do not have to be considered since prices of all kinds are taken as stable.)

The principle the farmer will follow in this case is to decide on the *combination that gives him exactly the same profit for the last unit of a resource* (feed, labor, housing) *that can be shifted from one kind of livestock to another*. He has three resources to shift: feed, labor, and housing; and three places to shift them: to more or less sows, cows, or steers. To find the right combination of livestock, the farmer would compare the cost of shifting his resources with the income he receives from shifting them. For example, it might pay better to reduce steers by two or three and add one milk cow, or vice versa, or change the combination of hogs and cattle.

With stable prices, costs, and production results from livestock, it would be possible for the farmer to find the one single combination that was better than any other. Probably it would take a good while to do it, but an exact answer could be found under these fixed conditions. When the farmer had the right combination, livestock in that proportion could be expanded as long as he could buy what was needed. In other words, when the last head of livestock added paid equally well whether the feed, labor, and shelter was used for a cow, sow, or steer, the farm manager would have the right combination—the highest profit combination.

As in Example 1, this is not a true-to-life situation. But the principle is the same: *equal income from the last unit of resources wherever it is used*. The search here is not for a formula for successful farming—there is none—but for the guiding principles of good management.

Example Three: Assume the same problem as in number two—the same farmer, the same farm.

- ▶ He can handle three kinds of livestock.
- ▶ He can expand or contract.
- ▶ Prices and cost rates are stable.

The difference now is that the farmer knows that cost and income results are not the same per head as he adds more and more livestock. At first, less feed, labor, or housing may be needed per head if the number of animals is increased. For example, it does not take twenty times as much work to care for twenty brood sows as it does for one sow, nor twenty times as much work or shelter for twenty steers as one steer. If the number handled becomes very large, however, efficiency goes down.

Assume the farmer knows how many head he can add and get increased efficiency, and the point at which efficiency turns down and how fast it falls. The fiftieth cow milked does not produce as much milk per ton of feed as the first cow since the manager has little time to look after a fiftieth cow. The same is true of sows and steers. Suppose the change takes place about as follows:

- ▶ With sows, total resources used per 100 pounds of pork marketed are lowest with 40 sows and increase slowly after that.
- ▶ With steers, resources used per 100 pounds of gain on steers are lowest with 80 head and increase slowly after that.
- ▶ With milk cows, resources per 100 pounds of milk produced are lowest with 20 cows and increase slowly after that.

Each of these figures assumes that the manager gives his full time to managing that one kind of livestock.

Problem: How many sows, milk cows, and steers should the farmer keep to make the most possible profit? Remember that the prices are stable. The output of milk, pork, or beef per head in relation to feed, labor, and shelter used, though it changes, is known to the farmer.

The questions he must answer are the same as those in Example 2: *How many? In what proportion?* But now those questions are complicated by the fact that cost and income results are not the same per head as more and more livestock are added. This time, costs and output change as the size of each enterprise is made larger or smaller.

The farm manager's approach is to think through the results of different combinations. Much depends on the fixed prices for

feed, labor, and shelter, and for hogs, milk cows, and steers. So with this in mind, the farmer tries to visualize several combinations of cows, sows, and steers:

<i>Trial</i>	<i>Milk Cows</i>	<i>Sows</i>	<i>Steers</i>
1	4	10	20
2	10	4	20
3	8	20	10
4	20	8	10
5	10	20	40
6	4	40	80
7	20	20	20
8	30	20	0

And so on, until he finds the combination most profitable to him. The two principles that guide the farmer in deciding what combination is best are:

(1) He *adds* resources to his business (feed, labor, and shelter, and cows, sows, or steers) until the income from the last unit added just equals the cost of adding it. Thus, he keeps on adding resources until he comes to the place where adding one more set of resources reduces rather than increases his income.

(2) He *shifts* the resources that can be shifted (feed and labor, for example) from one enterprise to another. That is, he shifts resources if the second enterprise pays better for their use than the first one does, from milk cows to hogs, hogs to steers, steers to hogs—whichever move appears to add to his profit. In the end, the farmer finds the size of business and the combination of livestock that brings in the maximum income. When he finds the right size and combination, any change in this number or combination will give poorer income. When he finds the right size and combination, any “high profit” goal of the good manager.

In actual farm practice, of course, prices change and other conditions vary. No one can make a perfect plan. But the principles used here are the ones that should guide the farmer in reaching a decision.

Example Four: This example deals with farming as it really is. The farmer has certain limitations in his ability and knowledge. In a sense, the farmer as the manager is the “fixed” resource and the only one. But he has certain other variable resources at his command: a farm, a certain amount of labor,

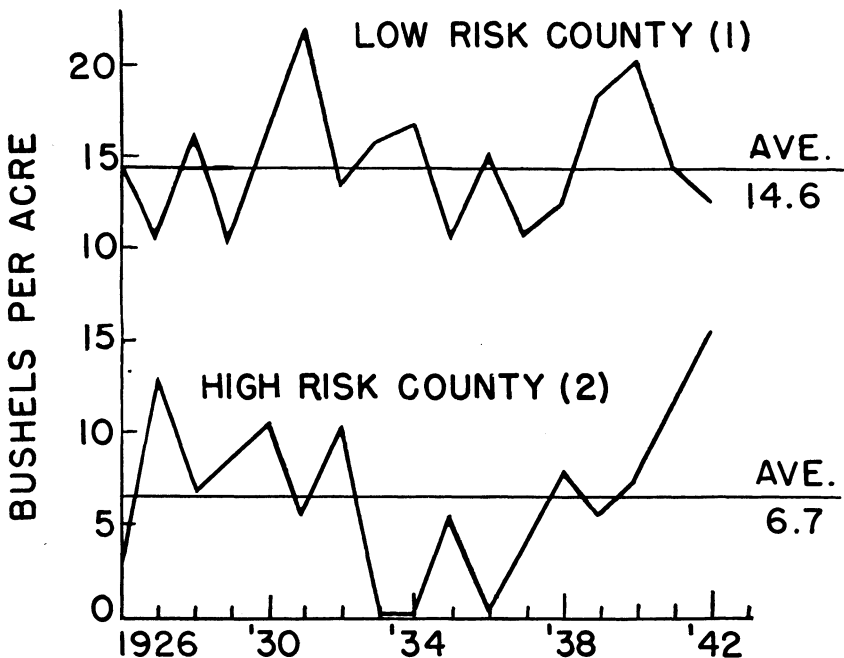


FIG. 15—Yield risks in growing wheat, two locations—17-year period. (1) Saline County, Missouri; (2) Spink County, South Dakota.

In three years out of seventeen, farmers in the high risk area had no wheat at harvest time, less than six bushels per acre in five other years. Yields were never less than ten bushels per acre in the lower risk county.

capital, and credit. Any of the three may be smaller or larger in amount. He can get more of any of them—at a price. He can dispose of some of them if he has more than he wants to use.

Depending on where he lives, he has certain limited choices in the crops he can profitably raise and the livestock he might keep. If he lives in the Corn Belt, he will have more choices than in some other areas, the Plains or the Dairy Area, for example. But in any area, there is a wide range of choice in size of business and many possible combinations of crops and livestock.

The production he gets from a given amount of resources is not very certain. But in some places and with some crops and livestock it is more dependable than with others. In western Kansas, winter wheat may vary all the way from not being worth cutting one year to yielding perhaps 15 or 20 bushels per acre the next. But in central Indiana or Ohio wheat will be a more dependable crop.

Hogs may be kept freer from disease on rolling land, while disease may be a difficult problem on level, poorly drained, heavy soils. Raising sheep may be a sure invitation to loss from predatory animals in some localities, a problem of little or no importance in others. And so on.

Prices, too, are uncertain but not in the same degree. The milk producer in the larger milkshed often gets a contract price for his milk that is good for many months in the future. But the cattle feeder knows that prices sometimes drop out from under him while his cattle are being fattened. Costs also may change, sometimes quickly. Many a man has been caught by a sudden rise in feed prices and found that what seemed to be certain profits in livestock feeding soon withered away because of rapidly rising feed costs.

That's the way farming really is. But with all these uncertainties and qualifications, the principle still holds that the farmer should, to the best of his ability: (1) *add resources to his business until the last unit of resources added just produces enough to cover the cost*, and (2) *shift what resources he can from one enterprise to another so that the last unit of resources used in each enterprise produces the same return as the last one used in any other enterprise*. This will be, to the best of the farmer's ability, the highest profit size of business and the best possible combination for him to use.

By next month or next year, conditions may change enough so that the farmer's plan will need some adjustment, but his goals remain the same: *equal pay for the last unit and all the units that make a profit*.

Four Key Questions

Here in summary are the four key questions that every farmer as a manager must ask himself and answer, not only once but many times over during his farming career.

Key Questions

1. How large should the business be?
2. How should the parts of the business be combined?
3. What practices should be used?
4. Is my farm plan in line with my best judgment of future prices and costs?

Examples of Individual Questions

- Will my net income for next year be larger or smaller if more land is used? More labor? More capital? What is the evidence? Which one, if any, and how much? Should I use less of any of them?
- Should my crop system be changed next year? To more grain? More grass? More cash crops? Do I have the right combination of crops and livestock? Can I shift the livestock plan to advantage? Does my farm plan work smoothly or am I overloaded at one time and not usefully busy at another? Do I have just enough power and machinery to make the largest profit? Too much? Too little?
- Not what practices are the best ones I know about, but what ones fit best on my farm? Is there a better crop variety for my farm or is the seed too expensive? More fertilizer next year, less, or a different mixture? Full feed protein now or not? Should milk cows freshen in spring, fall or some both times? Harvest a seed crop, cut more hay, or plow under a green manure crop? Invest in a combine or hire a neighbor to cut the grain?
- Is the plan geared to my idea of next year's prices or last year's? Plan pigs for an early market or a later one? Buy feeder cattle early or late this year; heavy yearlings or calves? Lay in extra feed now or wait until later? Sell a couple of cows now and wait for heifers to come along or keep them all?

The list could be extended much further. But practically all farm business decisions come under one of the four key questions.

Obviously, using good methods and practices are not enough by themselves to make a farmer a "money maker." He must know and be able to apply good practices, but the *decisions* he makes really are the key to his success. Decisions won't fully determine the amount of his net income, of course, since prices he gets for what he sells and prices he pays for the things he buys are major

factors in profit. But compared to other farmers in his area in the same year, his ability to make wise decisions will be crucial.

Some Past History

Figure 16 shows sixteen years of history on six good Corn Belt farms—good in the sense that each was a satisfactory unit and had quality land. The farms reported are real ones, the

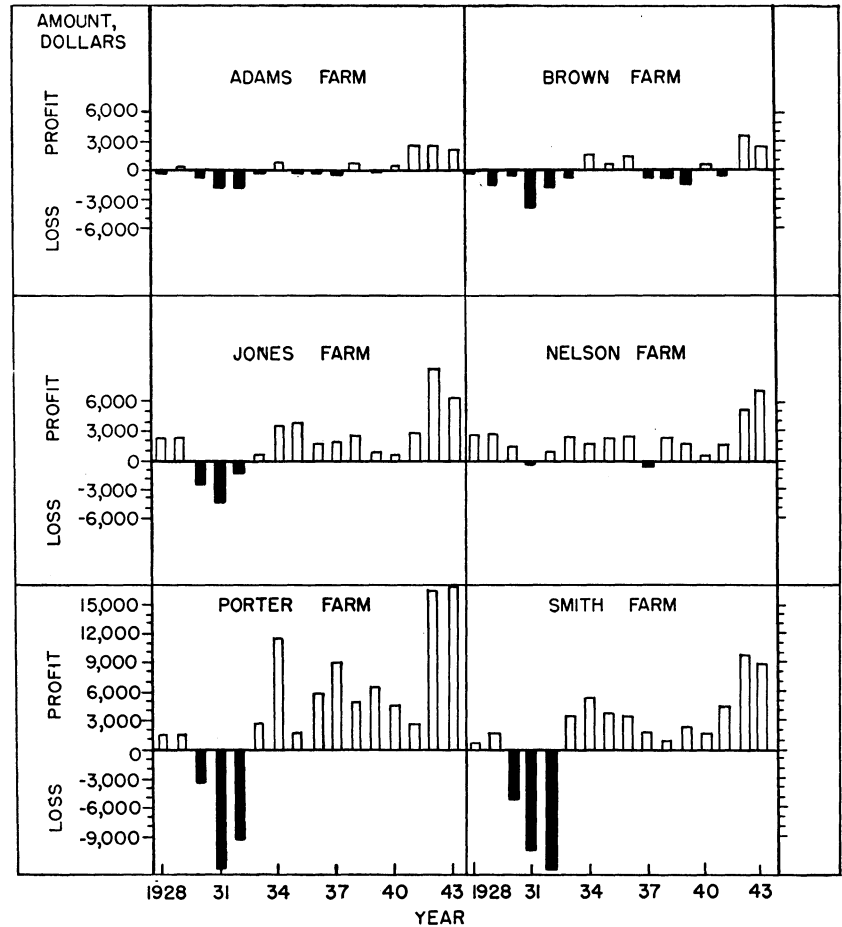


FIG. 16—The ups and downs in profit on six good Cornbelt farms, 1928–43. Profit is gross income less these deductions: all farming expenses; a charge for the use of capital and farm land; wages for the operator and unpaid family labor.

Depressions bring low incomes to all farmers. Well managed farms show handsome profits in prosperity times but poorly managed ones have small incomes even then.

names of the farmers are not. All six men were careful farmers, had good equipment, and used many of the newer practices. The sun shone and the rain fell about alike on all of them. All experienced both low prices and good ones.

The main differences were in management—the size of business operated; how the plan was put together; practices used; skill in estimating future prices and adjusting the business to them. The result: large differences in the amount and regularity of profit. Profit here is figured on an inventory basis. Deducted from the year's gross income are all farm operating expenses including depreciation, cash rent for the use of the farm, interest on the farmer's own operating capital and wages for the farmer and unpaid family labor at current wage rates for good hired men. The remainder is termed profit.

Adams Farm—This 140-acre farm is somewhat better than average land.

Mr. Adams holds his operations at a steady but rather slow pace. The \$16,000 of capital used per man is a good level. A general farmer, he tends to have a rather fixed plan of operations; is not very skillful with livestock. He picks up new practices readily but is not always skillful with their use. He makes a good living for his family; that's about all.

<i>Rating</i>	<i>16-Year Average</i>
All around management ability...Medium	No. of workers 1.4
Day-to-day attention to jobs.....Average	Capital used \$24,000
Use of new practices.....Average	Gross income \$3,350
Use of outlook information...Moderate	Expenses 3,130
	Profit per year \$220

Brown Farm—Mr. Brown is a hard worker and gives close attention to his business. A hog-cattle feeder, he is on a larger than average (240 acre) farm with good land and buildings. He uses crop rotations and legumes, and feeds his livestock well. Capital at \$23,000 per worker indicates a large business. But it is not well organized, with too few hogs and a tendency to over-fatten his cattle. Too many errors in decisions result in a reduced gross and high costs.

<i>Rating</i>	<i>16-Year Average</i>
All around management ability....Poor	No. of workers 1.5
Day-to-day attention to jobs.....Good	Capital used \$34,000
Use of new practices.....Average	Gross income \$6,310
Use of outlook information.....Little	Expenses 6,420
	Profit per year \$—110 (loss)

Jones Farm—This is a medium-sized acreage (160 acres) but a good-sized business. Quality of land is above average, buildings good. Mr. Jones

uses \$23,000 of capital per man and uses it effectively. He is a good crop man and an excellent livestock man though a bit erratic with his hogs. A hog raiser-cattle feeder, he pays close attention to the outlook; gives much time to decision-making.

Rating

All around management ability. Excellent
Day-to-day attention to jobs. Good
Use of new practices. Alert use
Use of outlook information. . . Well-timed

16-Year Average

No. of workers 2.0
Capital used \$47,000
Gross income \$10,160
Expenses . . . 8,285
Profit per year \$1,875

Nelson Farm—This 200-acre farm is below average of the area in native fertility of the soil. But Mr. Nelson has planned a dairy-hog-poultry combination that rates high for consistent performance. Capital per man at \$12,000 is the lowest of this group of farms. But this weakness is more than made up by the skill applied to crops, livestock, and marketing and high degree of efficiency developed. Machinery costs have been kept low.

Rating

All around management ability. Excellent
Day-to-day attention to jobs. . . Superior
Use of new practices. Alert use
Use of outlook information. Good

16-Year Average

No. of workers 2.9
Capital used \$34,000
Gross income \$8,875
Expenses . . . 6,875
Profit per year \$2,000

Porter Farm—This is an example of highly skilled management on a large family owned and managed farm. This farm of 330 acres with 200 acres of good cropland uses \$18,000 of capital per worker. A hog raising-cattle feeding unit, it combines larger scale operations with excellent management and full use of outlook information. Like all large units, losses were incurred when prices dropped in the early thirties. But with rising prices, profits came back fast. The farm also illustrates other risks. The large, clean ground hog program was practically wiped out by disease in 1940 and 1941 before it could be brought under control even by this highly skilled manager. But other alternates were used to maintain size of business until the hog program could be brought back into full operation.

Rating

All around management ability. Excellent
Day-to-day attention to jobs. . . Superior
Use of new practices. Alert use
Use of outlook information. . . Well-timed

16-Year Average

No. of workers 3.2
Capital used \$59,000
Gross income \$20,760
Expenses . . . 17,060
Profit per year \$3,700

Smith Farm—Mr. Smith runs a large unit. This farm with excellent land, fine barns and good equipment is a production unit, not a show place. Capital amounts to \$20,000 per worker. Formerly with a large herd of purebred cattle along with hog raising, it was not well geared to a falling price level. A high cost business such as this, even if given close attention, took large losses in the early thirties. The plan was

shifted to hog raising and some cattle feeding, the size of business being reduced though still large. It fared well when prices started up. But this kind of business must handle a lot of money to make a modest profit.

<i>Rating</i>		<i>16-Year Average</i>	
All around management		No. of workers	4.4
ability	Medium-Good	Capital used	\$90,000
Day-to-day attention to jobs	Superior	Gross income	\$13,650
Use of new practices	Alert use	Expenses	12,480
Use of outlook information	Moderate	Profit per year	\$1,170