

# Some Considerations in Buying A Farm

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## FOREWORD

The College of Agriculture is continually advising against land speculation and the purchase of farms at inflated values. It is recognized, however, that some farmers and city residents now have money which they wish to invest in farm lands. This circular presents the important principles and cautions one must observe if the purchase of a farm is to prove satisfactory.

M. F. MILLER, *Director*

The income of many Missouri farm operators is now higher than it has ever been. Receipts from sales have out-stripped costs in their increases to such an extent as to permit farmers to pay off or materially reduce their debts, buy war bonds, and in many cases seriously consider the practical problems connected with the purchase of that farm which they have so long desired but which until now has been beyond the reach of their available resources.

The commitments made in the purchase of a farm involve long-time obligations which can not quickly be met or readily shifted. Many things can suddenly occur which will seriously affect the soundness of such an important decision. Many of these occurrences cannot be foreseen, avoided, or controlled. Therefore, action in this direction should be taken only after mature consideration based on the best information available.

Unquestionably the first consideration which most prospective purchasers will take into account will be the price of land. They want to know whether current prices are relatively high, low, or representative of the general level of land prices. Naturally they

must learn something about those things which affect land prices. The question now frequently heard is, how high are present land values, in what direction are they moving, and what would seem to be the longer term prospects? It is quite likely that most purchasers also consider, consciously or otherwise, the relative prospects for earnings from land investment as compared with investments in other fields.

Table 1, expressing the results of some research being carried on by the Department of Agricultural Economics of the Missouri Experiment Station, gives a highly indicative answer to some of these questions, particularly those pertaining to the price of land and its earnings. These data are from reports of actual sales and earnings from farm lands in one of the most highly productive counties in Missouri. These figures show first, the average level of land values for 1910-14, the enormous increase in values over one year's time from 1919 to 1920, the value at the low point reached in 1933, and what has occurred in the last two or three years. The 1943 figure is a preliminary estimate and may be changed a little one way or the other but will not be changed materially.

TABLE 1.—MOVEMENT OF SALE VALUE PER ACRE, NET RENT, AND RATIO OF NET RENT TO SALE VALUE, IN A HIGHLY PRODUCTIVE MISSOURI COUNTY.

Year	Sale Value per Acre	Net Rent**	Per Cent Net Rent is of Sale Value
1910-14 Av.	\$110	\$ 5.34	4.85%
1919	155	11.95	7.71
1920	206	8.36	4.06
1933	60	3.01	5.02
1940	72	5.48	7.62
1941	77	6.58	8.55
1943	99*	?	?

\*Preliminary Estimate.

\*\*Net rent allows for all real estate expense and depreciation on improvements, but does not fully allow for replacements of improvements and restoration of soil productivity. Per cent return to real estate in 1943 is higher than it has been in fifty years in spite of the recent rise in land values. This is of great inflationary significance and potential danger to safety to farm real estate capital.

Net rent from farm real estate is shown for the same years except that the 1943 net rents are not yet available. For instance, land valued at \$110 per acre in 1910-14 gave a net rent return of \$5.34. This \$5.34 would pay just a little less than 5 per cent on the per acre sale value of the property.

In 1919 while the sale value of land had increased to \$155 per acre, a change of about 50 per cent, net rent had increased nearly \$6 or more than 100 per cent. This resulted in an earnings rate on the market value of the land of almost eight per cent. An eight per cent return is abnormally high when one considers the safety of this particular type of investment. As a result of this abnormal net earning, land values rose in one year by one-third, and net rents declined by nearly one-third. The effect was to give an interest

earning of only four per cent in 1920, which is slightly below usual earnings on farm investment.

In the period of falling prices following 1920, the market price of land declined to approximately one-third of the peak level. Rents declined about 35 per cent; the rate of interest earned, however, increased; so that when allowance is made for lower net rents, and also for lower land values, the investment was more satisfactory from the standpoint of earnings. Between 1933 and 1941 land values increased about 30 per cent. Net rents on the other hand increased 100 per cent in those eight years. The result was once more an increase in interest rate earned to a dangerous point. The result of this rapid increase in earnings was an increase in market value of 35 per cent in two years (1940-41). It is likely that net rents have increased even more since 1941, so that present interest earnings on good farm lands are probably pretty high. This is a most powerful incentive for bidding up land values above their present level, but it should also be a positive warning to farmers and other investors that they must watch closely the relation between net rents and sale values of farm lands. Whenever this relationship means more than four or five per cent interest, land values are likely to rise. When it is less than about five per cent, land values are high and their most probable movement will be downward.

The per cent net return to farm real estate in 1943 is higher than it has been in at least fifty years. This ratio of net rent to sale value is now so favorable that investors are likely to assume that net rents will remain high, and will be inclined to bid up land prices. But when the war ends and readjustment to a peacetime economy and peacetime prices is accomplished, net rents will not preserve such a favorable ratio to land values. Historically the conclusion of major wars has always been followed by price readjustments, and this has materially affected net rent-land price ratios, leading to much lower land prices.

In the foregoing figures the term "net rent" is given a prominent place. This is because the net rent item is one of major significance in determining land value, and what happens to net rent will very largely determine the trend in land values. It is, therefore, necessary to understand the meaning of net rent as it is commonly used and its real importance in connection with land value.

Net rent as computed from data furnished by farmers is what is left of the normal rent income from a farm after taxes, insurance on improvements, maintenance of improvements—including buildings, fences, pumps, windmills, erosion control structures such as terraces, waterways and dams—grass seed, limestone, fertilizer, labor and supervision costs, and any other item of expense have been deducted. The cost to the owner of supervising the operation of the farm, collecting rents, etc., are also costs and are generally

deducted. The net rent figures in Table 1 allow for all of these items. As indicated in the footnote to that table, there are two items which are not taken into consideration. One of these is the matter of building replacement. If the sample is sufficiently large and widely distributed, perhaps building replacement would be taken care of in the maintenance of improvements. However, in a community where the land was all improved at about the same time, it is quite likely that replacement of major improvements is not sufficiently allowed for in the casual replacement included under maintenance. It is, therefore, quite likely that some further allowance for building replacement should be made. On many of our present-day farms improvements are at the point where replacement instead of continued repair is about the only way in which the serviceability of these improvements can be maintained.

Agriculture has gone through a good many years of low incomes where great economy had to be practiced. Thus replacing buildings has been postponed from year to year. Either actual wearing out of the improvement or obsolescence has been occurring in a cumulative manner. Thus in the case of the purchase of many farms today the buyer will find it necessary to make considerable additional capital outlays to give the farm an adequate supply of modern serviceable improvements. Therefore, it would seem to be only good business judgment to correct the net rent figure sufficiently to allow for such replacement.

#### **Allowance is Needed for Cost of Maintaining Productivity**

An additional adjustment for restoring productivity of the land would also seem to be desirable. As indicated above, only those rather obvious costs of maintaining productivity are allowed for in calculating net rent. To anyone who has been privileged to observe the changing character of our farms over the past half century it is quite obvious that in most cases the productivity of the land has not been maintained. Depletion is usually evidenced by erosion losses, the abandonment of small or large areas along fence rows, the widening of gullies, or the shift of land to a lower use, such as from grain to grass. Farmers have also decreased acreages of crops which are heavy users of fertility and increased the acreage of those crops which have lower demands on fertility. At one time they were growing five to seven million acres of corn in Missouri. Today it seems four to five million acres are as much as the land should stand. While they have been doing these things they have also been increasing the use of fertilizer, limestone, improved strains of seed more tolerant to lands of less productivity, etc. There is no doubt but that a correction should be made in the net rent figure to provide for a more nearly complete maintenance of productivity than has been the custom in the past,

A practical bookkeeping procedure would be to take from the net rent figure a sum sufficient to meet building replacement and productivity restoration requirements and place this sum in a reserve fund for these purposes when it once more becomes possible to procure the necessary materials and labor for these restorations. It is probably not an exaggeration to estimate that net rent as currently computed should be decreased by ten to twenty per cent to allow for this restoration before the net rent figure is used in computing the investment value of the property. Much of the distress of tenants on rented farms is due to the decline in gross production of the land and consequently a smaller amount of product to be divided between tenant and landlord.

### **Changing Costs or Changing Prices Will Affect Net Rents.**

It should be evident from the foregoing enumeration of the factors involved in determining net rent that any occurrence which affects the cost of ownership of a farm or the price at which the products of that farm are sold will change the net rent figure. One thing is certain—prices are constantly changing; also the list of cost items seems to be increasing. Farming is less and less a problem of extracting from the land something which can be sold profitably. This means that costs incurred will need to be watched more closely and that the farm's value will rest more largely on its location and other physical advantages.

### **The Interest Rate Used to Capitalize Net Rent Influences Land Value.**

While the rent income from the land is not the only determinant of what a farm is worth, yet it is a very important one. That part of the land value which originates in net rent is determined by dividing the net rent by a rate of interest considered acceptable for such investment. For example (Table 1), in 1933 the net rent on the land was \$3.01. If a fair interest rate on investments in farm land is five per cent, this land would be worth \$60 per acre. In other words, \$3.01 is five per cent interest on an investment of \$60. If the investor is willing to take three per cent, then the land would be worth \$100 per acre.

If the rate of interest changes, the land value will change for any given net rent figure. It is obviously impossible to determine with complete accuracy what rate of interest should be used in capitalizing net rent. Will the interest rate rise or fall or remain steady? The government, with its large and growing public debt is very much interested in the interest rate, and government is a very important influence on the rate of interest. It is very much concerned in keeping interest rates as low as possible, thus holding down the carrying charge on the public debt. On the other hand,

private concerns which provide capital are usually most likely interested in a high rate of interest. They want as large a return as possible on their capital. The interest rate on capital operates much as does price on a product like corn. When the price is high, people try to produce more corn. When the interest rate is high, lenders try to increase the amount of loanable capital. A low rate of interest will discourage capital accumulation. Thus there are conflicting interests influencing the rate of interest at which net rents should be capitalized.

The relative security of investment in farm land as compared with other possible investments influences the amount of capital seeking investment in land. When the security feature is favorable to land, there will be more capital available and the interest rate should fall. When other investment prospects are promising as compared with earnings in land, interest rates will strengthen.

#### **Its Attractiveness as a Home Affects the Value of a Farm.**

While the productivity of a farm has an important influence on its value, its attractiveness as a place to live is also of great significance. Both production and home features must, therefore, be considered. Unquestionably the amount of rent which will be paid for a farm is influenced by both of these factors. If its productivity is low, is expensive to operate or objectionable as a place to live, certainly its value will be less than if these considerations are more favorable. It is quite likely that these three influences will become of greater significance as the years pass.

#### **Land Value Movements—Past and Prospective.**

In Missouri, there has been a century of generally rising land values (1820-1919) but with great fluctuations during and following wars. Will this trend continue or will it change direction? No one knows, but since 1920 the trend has changed. Land values fell abruptly in 1920-22 and then leveled off for about nine years. There followed another drop covering four years' time. Since 1937 land values were fairly stable until 1942, when they again came to life.

There seems to be no good basis for expecting the trend in land values to be upward for another century. It is much more likely that the long-time level will be somewhere around present levels. There will be periods of rising and falling prices, but unless some great disturbance occurs, these periods should be short and not highly significant to farm owner-operators. In countries much older than ours and with lands as good and with the scarcity factor much more important, land values have for centuries been comparable to our experience of the past two decades.

**The Size of the Farm Unit is of Major Importance.**

Considerations of as great significance to the farmer operator as the price per acre would include first, the determination of adequacy of the acreage being considered for purchase. Is the farm of sufficient acreage, considering *both extent and productivity*, to permit the organizing of an effective farm business capable of producing enough above costs to provide an acceptable living? Answering this question adequately would require more space than is here available, but the main points will be considered.

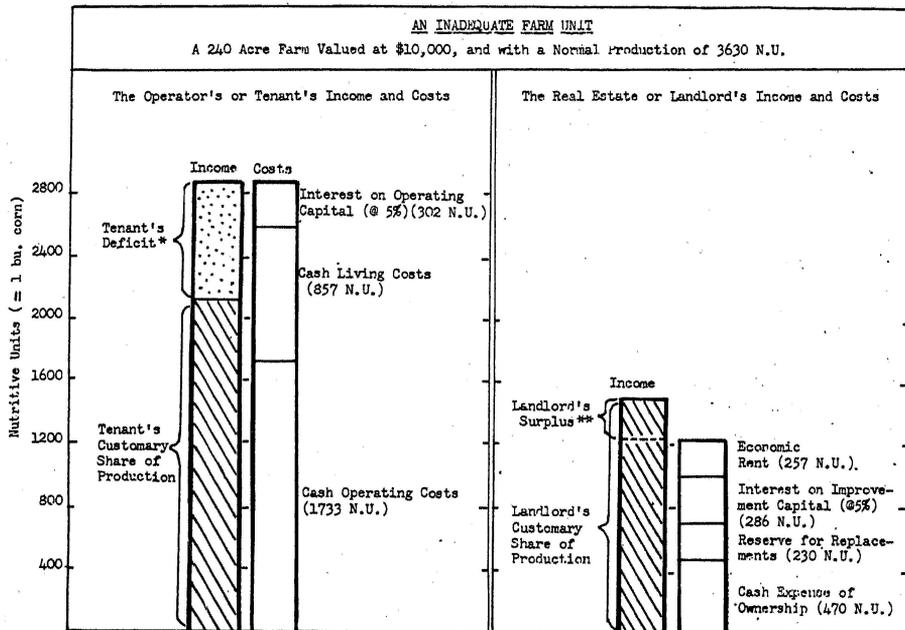


Fig. 1.—This farm is too small and rents are badly adjusted to the productivity of the land. If the landlord's surplus was all transferred to the operator, there would still be a deficit of 453 nutritive units. Improved yields or the addition of approximately 60 more acres, with appropriate adjustment in the farming system and rent rate would correct the difficulty.

\*Allowing the tenant 5% on his operating capital and \$600 for necessary cash living needs in lieu of a wage allowance for the operator and his family, his normal operator's share of the total production lacked 764 nutritive units of meeting his costs.

\*\*After allowing for maintenance of productivity and normal replacement of improvements, and 3% interest on the estimated market value of the land. The rent actually paid about 6% return on this value.

A farm must have sufficient production possibilities to meet operating costs and provide enough additional to cover real estate expenses and leave something for interest on the investment in the farm. Figure 1 is intended to emphasize this point. This figure gives a comparison of income and costs for the operator, income

and costs of owning the land, and whether or not there is product beyond cost of ownership which can be regarded as rent. The data used in this illustration are from a good but not outstanding farm in an area of medium production in Missouri. The operator's share of the income was determined by applying usual community share rents to the production of the farm. His costs of operation were taken from the record. His cash living costs were approximately what the family actually spent for their living needs. If the farm were a rented farm, it failed to produce enough to cover these operating and living costs and pay the operator interest on his operating capital. The shortage was 764 units, each unit equivalent to one bushel of corn.

When the owner's position is considered, the situation changes. Again applying the usual crop division and pasture rent rate to the farm it is found that there is enough product to pay the cash costs of ownership, allow a reserve for replacement of improvements, pay five per cent interest on the value of improvements made on the farm, and have enough product left over to pay three per cent interest on the estimated market value of the farm, and something besides which is called in this illustration "the landlord's surplus". What it actually means is that the farm returned enough to actually allow a six per cent interest rate on the estimated market value of the farm. It is obvious that the production per acre of this farm is too low to justify the usual crop-share division between owner and operator. Furthermore, it also illustrates the point that the farm is too low in total production to justify the estimated market value of the farm, take care of both landlord's and operator's costs, and give the operator enough additional product to cover his cash living requirements and pay interest on his operating capital.

Figure 1, therefore, illustrates two points: First, that crop division between owner and operator is not well adjusted to the productivity of the land; and second, that the total production of the farm is insufficient to cover reasonable operating allowances, ownership costs, and justify the estimated market value of the property.

The foregoing discussion and figure apply the principle of adequacy of unit to an individual farm. Figure 2 shows how the principle applies to the area or region. This figure is taken directly from a research report and shows the relationship between the size of the farm unit in a particular region and its ability to cover the charges referred to above. The only assumption in this figure is the amount of production needed to cover reasonable living requirements of the operator and his family. Briefly this figure indicates that, *in the region covered by this study*, farms with only average yields and of less than about 180 acres did not give enough total production to cover the necessary costs and provide additional product which could be called rent. A farm of 120 acres would

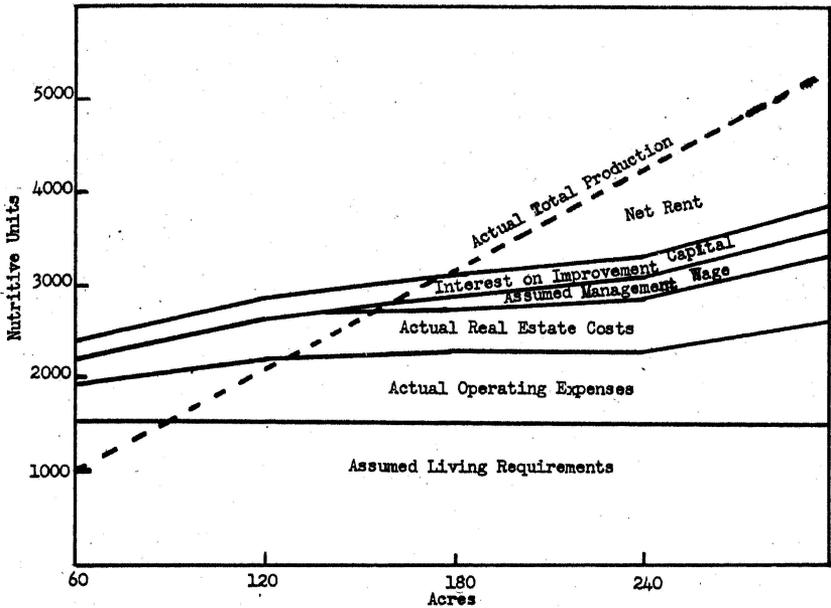


Fig. 2.—In an area of medium productivity (17.7 nutritive units per acre) and with assumed living requirements, 180 acres were needed before any net rent was realized. (Missouri Agricultural Experiment Station Research Bulletin 808.)

barely cover living and operating expenses. It would leave nothing to apply to real estate expenses or interest on improvements. Obviously such a farm would have no investment value. The farm of 180 acres would provide a living and other costs for an operator, maintain and pay interest on the improvement capital. If one undertook to buy such a farm, he would be justified in paying only what the improvements on the farm are worth if he expected to live like other folks in the community are living and receive interest on operating and improvement capital. It should, therefore, be evident that both acres and production per acre are involved in determining whether or not a farm in a given region is sufficiently large to meet the requirements of the operator and his family and justify the price which is being asked for the property. Specific application of this principle to the purchaser's special requirements must next be considered.

The purchaser must decide whether the farm is to be (1) chiefly an investment with operation by a tenant, (2) a home and a supplemental source of income, (3) one which, with diligence and frugality, will provide a living but nothing more (a subsistence farm), (4) an efficient family farm unit, or (5) a highly commercial unit.

### The Investor's Requirement in a Farm.

The investor is interested in the receipt of rent and in keeping rent coming in at regular intervals and in sufficient volume to leave him a fair return on his investment after his costs of ownership have been paid and the farm maintained. He should also consider whether the tenant is getting a reasonable living while paying the rent. A tenant with a fair living prospect is more likely to meet rent payments promptly, remain on that farm, and take good care of the property than if he must deny his family a reasonable living in order to meet rent obligations.

A farm, to be worth considering as a permanent investment for a landlord, should return at least enough in products to pay a tenant's costs, including rent, maintain his capital, and provide his family with a living which compares favorably with that of his neighbors. A farm unit which will not do this will eventually be depleted to the point where rent charges can not be met and the landlord becomes convinced that tenants are less capable than they once were. In actual fact, it is not the tenant's fault but the fault of the farm unit.

Landlords must expect rent income to make allowance for *maintaining the productivity of the land*. If the farming system followed does this, then the rent actually received must be lower than if the tenant is not required to keep up the productivity of the farm. If the lease agreement does not require maintenance of the land, then the landlord must expect to maintain the farm from the rent income. There is no justification for any other plan.

### Cash Crop Land Involves Less Responsibility and Supervision.

There are additional considerations which an investor should not overlook. If he is not experienced in farming, the safest kind of a farm for him would be one easily rented for a share of the crop or for cash rent. Inexperienced landlords have difficulty supervising farms best suited to livestock farming systems. It is possible to employ experienced management to supervise the farm, but most investors prefer to have more direct contact with the farm and its operation. They also expect to get part of their return through the satisfaction of personal supervision. Only those investors with a fairly recent and successful experience in farm operation will find very satisfactory the investment in farms which must be developed as livestock farms. Landlords will be required to provide more of the operating investment, maintain adequate improvements for livestock operation, and have several such responsibilities which can not be successfully met without a background of experience. With a farm consisting mostly of crop land the inexperienced landlord will need guidance chiefly by those trained in maintaining productivity of the soil in order to avoid rapid depletion of the productivity

of the farm in question. In most states special guidance in this matter is available through the State Agricultural Experiment Station or the Agricultural Extension Service. This guidance must be utilized if the inexperienced investor expects to have a satisfactory investment for a long period of time.

#### **The Problem of the Part-time Farmer.**

For the purchaser who expects to live on the farm, the necessary minimum productivity is determined by whether he must depend entirely on the farm for his living. Many country residents who work part of the time elsewhere or who have other sources of income than the production of the farm, can justify farm units much smaller than those required for families wholly dependent on the product of the farm unit in question. Small acreages may justify a relatively high capital value when associated with dependable outside employment opportunities. This will be because such an acreage, too small for an independent farm unit, does provide a home and many of the products used by the family in living. These products are provided at a cost generally much below what they would cost if bought in the retail market.

The investor interested from the standpoint of a part-time operator must seriously consider whether or not the farm in question is adapted to those enterprises which can be successfully conducted on a part-time basis. Such enterprises will depend on the requirements of the part-time farmer's non-farm employment. For instance, the mail carrier on a country route might have a part of each day which he could utilize for work on his farm. He could better handle enterprises which have no rush season requirements but which do require regular daily attention. Milk cows or poultry are illustrations of appropriate enterprises. A fruit project which may require steady work for short periods in spraying and in harvest would not be so appropriate. Enterprises which require the strength and skill available in the operator's family would be appropriate. The part-time farm operator will generally find certain livestock enterprises and truck and small fruit crops on a small scale most appropriate. Thus the part-time farmer would be best able to use a farm with considerable pasture land but with some highly productive crop land suitable for truck crops mostly for home requirements.

#### **The Problem of the Subsistence Farm Unit.**

There is at times considerable discussion of the so-called subsistence farm. What is a subsistence farm and does it have a place in the agricultural picture? The subsistence farm is understood to be one which when operated with frugality will provide a living for the family. The living will be what the term implies—namely, subsistence. If debts are incurred, the family cannot liquidate

these debts from earnings; they cannot give the members of the family a college education if it means sending the children away from home for such education; and the family's living will require all the earnings of their labor and their capital; so that nothing is left which could be called savings.

There are many such farms in America. Such a farm could be of interest only to the family that is willing to accept such living circumstances and is able to *completely pay for the farm* and all of the necessary equipment to operate it. Such a farm unit could not be regarded as highly desirable for an individual or a community. There may be cases when it will care for and shelter a contented family, but these instances are probably rare. It would seem that most prospective farm purchasers should be careful to avoid a subsistence farm unit.

#### **The Family Farm Unit Has Special Requirements.**

The requirements for an adequate family unit differ from those of any of the other classes mentioned. Home facilities must compare favorably with those of the other owner operated farms of the community. They may not be quite comparable to those of part-time farm operators. Economy, serviceability, and convenience should be more carefully considered. Subsistence or tenant farm living facilities will frequently be inadequate to satisfy the family farm operator.

The total production of the farm unit must be greater than that of the subsistence farm. It must first of all provide more than a subsistence level of living. There must be enough additional production to permit the family to enjoy educational, recreational, and other privileges common to the more adequate homes of the community. Furthermore there must be some income above these items to permit savings or accumulation of reserves for emergencies and liquidation of debts. In other words, it should provide the owner operator with both a good, though not extravagant, living and debt paying power.

Such a farm should, when properly equipped, allow effective use of the family labor supply. It should not require significant amounts of hired labor. The custom of exchange of labor among neighbors when fully utilized will usually meet rush season needs in diversified family farm neighborhoods. In some specialized areas this is not so feasible. The adequate farm unit should allow enough acreage to permit effective use of improved farm machinery, either individually owned or with ownership shared with a neighbor.

Technological improvements, especially in the field of power, equipment, cropping and soil management, have made obsolete the typical family farm unit of the past fifty years. Adjustment to take full advantage of these developments will usually require larger acreages than heretofore.

### The Commercial Farm Unit Will Usually be Larger.

The final type of farm unit requiring attention was designated as the commercial unit. This differs from the family farm unit in at least two important respects. First, the labor and often the management will be hired. Second, the item of accommodations and products furnished toward living will have little significance. The workers and frequently the management may live either in bunk houses, laborers' cottages, or in the nearby town, and be transported to and from the farm night and morning. Commercial wages will be paid all labor, which will generally be highly specialized, and require wages equal to industrial wages of the area. Management interest will often be separate from that of ownership. This situation will more closely resemble the industrial corporation and will justify its existence by its ability to pay interest on capital and profit to those who carry the risk. Its interest in the use of fertilizers, hybrid seed, high producing livestock, mechanization and use of power will be a maximum, and these means of increasing output and of reducing costs will be used as a matter of course, whenever they will increase profits.

To this type of land owner, land is worth just what it will pay return on without regard to its home or living features. If profitable, and he is permitted to do so, the proprietor will often exhaust the soil and then turn the land over to the state or a private individual to restore to productive usefulness. Considering both maintenance of the land and efficiency in production, a high type of agricultural production is generally found on the best commercial farms.

The prospective purchaser of a commercial farm unit is perhaps less concerned about the adaptability of the farm to certain uses. If it is truly a commercial farm project, any farm unit where sufficient volume of business can be developed should be satisfactory. The commercial farm operator will usually have a type of business which he prefers and he will make his investment in a region where that type of business can be successfully conducted. Then he is concerned only with selecting the acreage which will permit a highly efficient organization for that system of farming. It should be indicated that the variations of the weather and often of prices introduce hazards far greater than those common to most industrial enterprises.

Requirements peculiar to each of these five classes of farms have been briefly outlined above. A sixth—namely, the country estate—is deliberately omitted, partly because of its numerical unimportance but perhaps more because in choosing such properties, personal rather than economic considerations generally govern. Also the exact division point between commercial farms and country estates is difficult to determine. Frequently on the latter there are well developed commercial enterprises.

The foregoing is intended to emphasize the differences in requirements of farms for the special purposes indicated. It will become progressively more difficult for operators on badly adjusted units to justify their stewardship, keep costs within reasonable bounds and achieve an acceptable return for their effort.

### Aids in Determining Gross Production and Farm Unit Adequacy.

The first step necessary in determining adequacy of a farm unit is that of making the best possible estimate of the average annual total production from the farm. Only production from the land is involved. It is necessary to decide what system of cropping can be counted on to give a maximum annual production and at the same time not exhaust the soil. Any practicable crop combination will most likely have to be supplemented by the application of commercial fertilizer and limestone, the growing of legumes and return of manure and crop residues to the fields producing these crops. These costs of restoring will become prohibitively high if the crop pattern chosen is too severe. Therefore, care must be exercised that the crop combination accepted is practicable. Average yields applied to the acres of these crops must be carefully verified by the experience and judgment of neighbors.

TABLE 2.—VARIATION IN PRODUCTIVITY OF PASTURES IN MISSOURI\*  
MEASURED IN NUTRITIVE UNITS (=1 BUSHEL OF CORN).

	Productivity of Pasture Acres		
	Least Productive One-third	Middle One-third	Most Productive One-third
<b>Permanent Pastures:</b>			
Ozark Highland, mostly Crawford and Clarksville gravel soils .....	4.0 units	10.8 units	19.9 units
Southwest Missouri, mostly Cherokee, Oswego and Summit soils .....	5.0	10.6	21.8
North Central Missouri, Shelby-Lindley soils .....	5.7	12.1	24.6
Northwest Missouri, Marshall-Shelby soils .....	7.4	13.9	35.2
State .....	5.0	11.9	25.6
<b>Rotation Pasture—Korean Lespedeza</b>			
North Missouri .....	2.6	4.7	16.5
South Missouri .....	2.7	9.3	20.9
<b>Rotation Pasture—Small grain and Korean Lespedeza, Pastured out</b>			
North Missouri .....	6.7	12.1	29.1
South Missouri .....	5.9	16.1	39.3

\*These data, adapted from Missouri Agricultural Experiment Station Bulletin 443, are based on actual farm records for the pasture years 1937 and 1938. They measure production derived from pastures in terms of nutritive units which are equivalent to one bushel of corn. Pastures were grouped by the least productive, moderately productive, and most productive, and averages were determined for each of these groups. In South Missouri, pastures may provide almost ten months of grazing, while the season decreases to only about eight months at the north border. These are probably optimum seasons. There is great variation between the poorest and the best pastures in any neighborhood. These data should give a fair indication of what pasture land on a farm will contribute to that farm's productive capacity.

The productivity contributed by pastures must not be omitted in determining total production. Table 2 shows not only that pasture acres may contribute substantially to a farm's total production, but

that there is a wide range in the rate of that contribution. There are two methods which may be applied in reducing physical production to a common unit. Either the nutritive unit value\* or the money value of the physical units may be used. The nutritive unit partially avoids the problem of what price to use, but cannot be applied to fibre or other non-feedable crops. Also a table of values must be referred to for conversion purposes. If money values are used, great care must be exercised that these are prices which represent fair long-time expectations, and that they are comparable to those used in estimating the costs of operation. Probably the nutritive unit is the safer, but also the more difficult method.

When a farm unit has sufficient production to cover operating costs, and satisfy the other requirements of the purchaser, it may be regarded as an adequate unit. Possibilities of exceeding average or normal yields, or achieving lower costs by better management, are the means available for realizing a living and saving level higher than that usually enjoyed in the community. The influence of yield per acre on adequacy is illustrated in Figure 3.

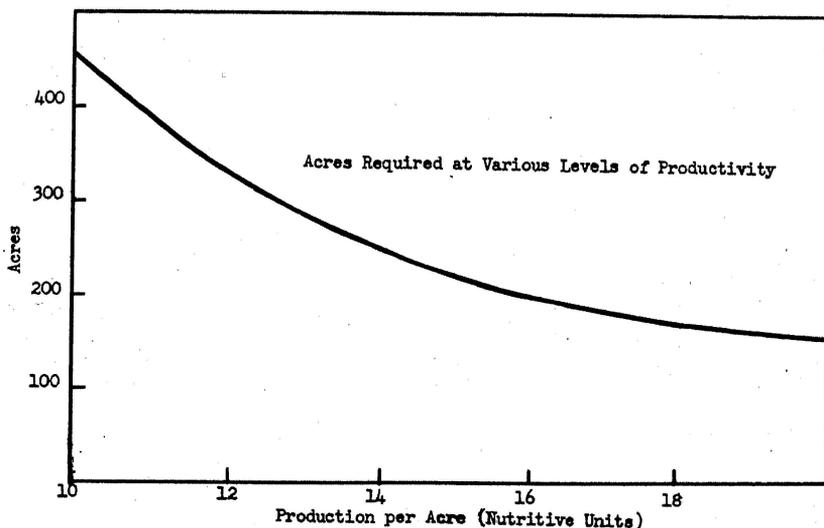


Fig. 3.—As productivity per acre increases, the acres required to meet all costs decline. Above this needed acreage net rent is realized and the farm unit has investment value. (Missouri Agricultural Experiment Station Research Bulletin 308.)

### Financing the Purchase of the Farm.

Along with price of land and size of farm unit needed, should be ranked in importance the problem of financing the farm and its

\*A nutritive unit expresses the production of all feedable crops in units equivalent to the net energy value of one bushel of corn. (See Missouri Experiment Station Bulletin 443.)

operation. Of these three major considerations, that of the financial program is certainly not the least in importance.

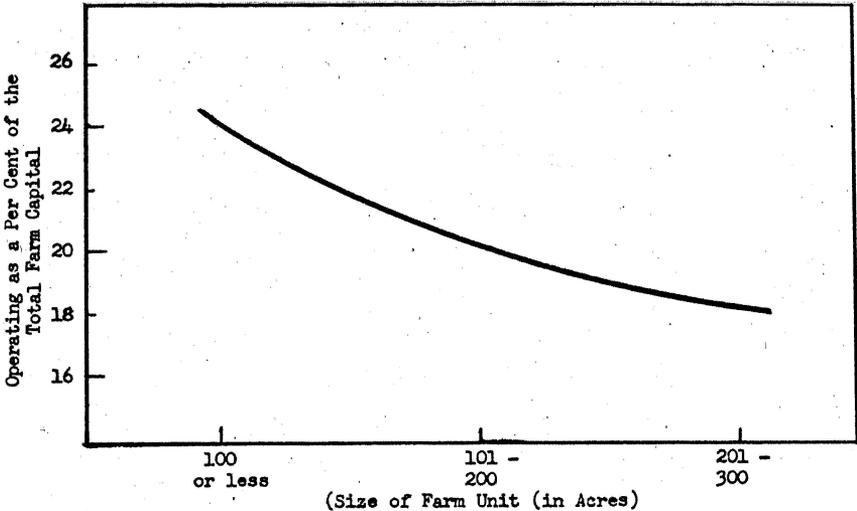


Fig. 4.—The relation of operating to total capital. Most small farms are inadequately equipped. Even so, the percentage of total farm capital used as operating capital steadily declines as the size of the farm unit increases.

Adequate financing must include financing the *operation* of the farm as well as its purchase (Figure 4). A number of general considerations apply to this problem. With no attempt to list them in any particular order of importance, the following are certainly highly significant.

A good farm purchased at a reasonable figure but without careful and complete provision for its operation may easily become a serious liability.

Capital borrowed to finance the purchase of land generally requires a lower rate of interest than that borrowed for the operation of the land. Therefore, it would seem obvious that if capital is limited, its first use should be as operating capital.

Farm debts are repaid from the income resulting from operating effectively. If one is prevented from operating efficiently because of lack of operating capital, ability to make payments on debts is seriously affected.

The temptation to buy a farm when one sees land values rising, must be resisted unless and until an adequate down payment can be made without jeopardizing one's position by reducing the supply of operating capital below the point where efficient operation is possible.

Increases in the value of a farm after it is purchased, and not due to improved productivity, increase the estate one leaves to one's heirs. Or if one decides to liquidate and retire, some benefit is realized. However, so long as one continues to farm, this increase will not pay debts nor add to operating capital. It won't build that needed new barn or home. Such things come only from earnings or further borrowings. It is probably the increased borrowing possibility which has led to grief for many operators who have followed just that course. As the value of land rose, the imagined security for added loans increased, so additional debts were contracted. Then when the decline set in, the operator's equity had to absorb all the decline. *The debt didn't shrink with falling values and prices.* And frequently it required more products to pay the carrying charges of the debt than the operator could spare and still live and operate. So insolvency and foreclosure were the result. The supposed increase in value had been caused, not by higher production or greater operating efficiency, but by rising prices of farm products. This left the operator defenseless when prices fell.

#### What is an Adequate Down Payment on a Farm?

An adequate down payment would be that amount sufficient to weather the usual ups and downs of land prices and still leave the owner some equity over and above the amount of the mortgage. The important object is to keep the holder of the mortgage from doubting the security of his loan. Land price fluctuations, except in very unusual times, will seldom be more than thirty or forty per cent in any one direction. Thus a down payment of one-third to a half of the purchase price, coupled with an operating plan that will maintain the farm and *its productivity* will usually be ample. Purchasers in the early phases of a general rise in the price level will be safe with a somewhat smaller down payment, on the assumption that considerable liquidation of the debt can be accomplished before prices start downward again but one must be reasonably sure that there is a general rise in the price level.

It is assumed that everyone understands that land values are influenced by changes in prices of farm products, which in turn affect the net rent realized from the land. Also a change in farm product prices for a single year will not be reflected in land values. Some lag occurs in translating a change in earnings into capital value of the land. Allowing for this, there is one other matter that deserves mention, namely, the fixed nature of some of the ownership and operating costs of a farm. Because of this a change in market value of the products has more than a proportional effect on the earnings value of the land. In other words, on a price rise the margin between the total value of production and the necessary costs of production increases more rapidly than prices increase, and

when prices fall that margin shrinks faster than prices drop. The result is that a change of 25 per cent in the price of the product of a farm will actually change the capital value of the farm by much more than this per cent.

#### **Ample Operating Capital Must be Available.**

Operating capital requirements are definitely on the increase, both as to amount and significance. Wages of hired labor are greater, cash costs of maintenance of equipment and power are much more, and because of scarcity of experienced farm labor the need for labor saving equipment is more pressing. Seed costs more, larger quantities of fertilizer are used, and the size of the farm unit is expanding. All of these changes require added operating capital. For equal effectiveness, two to four times the operating capital required thirty years ago is now needed.

#### **A Well Financed Farm Demands a Reserve Fund.**

No well conducted business firm would consider operating without some reserves of cash or securities which could be readily turned into cash. The farm is no exception to this rule. Therefore, when considering the purchase of a farm and estimating the portion of one's resources which could safely be used to apply on such purchase, the matter of making allowance for a reasonable reserve fund should not be overlooked.

The amount of reserve which should be provided will depend on the size of business being conducted, the regularity and dependability of income from current operation and whether or not the farming system is of such a nature that there is generally on hand some livestock or other regularly produced product which could be quickly turned into cash. Frequently, farmers will accumulate young breeding stock, work animals or other increase from farm operations which may be regarded as a form of reserve. This kind of reserve should not be interpreted to include feed supplies which will be needed before feed is again produced, or breeding or work animals regularly depended upon for producing the market crop of animals or performing the work of production. Whenever one must sacrifice breeding animals or work stock needed in the regular farming program, then one is reducing the volume of operations below normal capacity and thereby endangering the income from the farm. Therefore, these items cannot properly be regarded as a reserve for emergencies.

As has been indicated, the proper amount of reserve is a "proportion" item determined by certain characteristics of the business. While no specific figure could properly be given here, it is perhaps sufficiently specific to say that the reserve should be enough to take care of that portion of a year's operating costs which would be

endangered by a dry year or other unavoidable catastrophe which would jeopardize the year's receipts. A 50 or 60 per cent margin would normally provide sufficient protection from such misfortune. Thus if the normal year's expenses amount to \$1,000, a reserve of \$500 or \$600 should give ample protection.

The foregoing relates to the farm business only and does not allow for family living reserve needs. One might wish to make some added reserve provisions for family living requirements. Generally, however, if the farm business is adequately protected by reserves, the family living item will give no trouble.

#### **Reserves Should be in Non-Speculative Form.**

It is not necessary for one to keep reserves in cash but they must be in such form that they may be offered as easily convertible collateral for a loan if cash is needed. There are a number of forms in which such reserves can be kept which will be satisfactory and in which they will accumulate interest while they are serving as protection for the farm business. These would include government bonds, insurance policies with a considerable accumulation of cash value, preferred stocks of high character, etc.

A government bond is one of the most acceptable forms for such reserve fund investment and everyone is duty bound to buy these during the war emergency. A life insurance policy which has been in force and accumulating a cash value for some time is often adequate. Certain stocks of highly stable business firms will frequently serve. One can look at the matter of the reserve fund as being an income producing item. It remains an income producing item even if it must be used as security for a loan for temporary needs. Thus if the reserve is invested in a government bond drawing three per cent interest and it is used as security for a loan at the bank on which a six per cent interest rate is charged, the net charge against one's income to cover the cost of such a loan would be the difference between three per cent and six per cent. In other words, the interest received from the bond would pay half of the interest charge on the loan at the bank. Thus reserves do not need to be kept in a non-earning form.

From the foregoing it seems there are certain specific policies which one should associate with planning the purchase of a farm. These would include first, the determination of the minimum size of farm to meet one's requirements; second, whether or not one's resources will permit the observing of an adequate financing program including a safe down payment on the farm, all needed operating capital, and sufficient reserves to guard against temporary misfortune; third, a farm unit reasonably valued, based on its probable long-time net rent income.

There is no fundamental reason why investors should not consider putting some of their savings into a good and adequate farm

to be operated by a tenant. Their chief concern should be to provide a farm appropriate for tenant operation. Such investors frequently make it possible for beginning farm operators to have a good farm to operate where otherwise they would be unable with their own resources to start farming under favorable circumstances. Investors must use more care than in the past to be sure that full provision has been made in their calculation for maintaining the productivity of the farm, otherwise the land will depreciate until it becomes unsatisfactory not only to the investor but to the tenant operator and the community.

There is a place in our land ownership pattern for the part-time farm unit. Two major considerations must be taken into account when considering this kind of a purchase. First, a part-time farm unit must only be associated with that situation where the owner has highly dependable outside employment opportunity. Second, care must be exercised that part-time farm units do not become a burden on the community through holding highly productive land out of full use because the unit is larger than the occupant can use with the time at his disposal. Also, the family occupying a part-time farm unit should within limits conform to community standards in the matter of community improvements which may affect more than just that farm unit.

There is no basic reason why a family, with sufficient resources and with this their best opportunity, should not consider the purchase of a farm when they know it means subsistence for them. The important thing they must recognize is that if it is subsistence farming, it cannot retire debts in addition to providing them with a living. It is entirely possible that it will provide a more nearly adequate living than they could otherwise enjoy, and to this extent it is justified. It cannot be held up as a desirable goal for agricultural families.

Purchasing a farm unit which will qualify as a family farm probably concerns more farm land buyers than all other classes combined. A community of adequate family farms is a highly desirable one in which to live. To persist as family farm units such farms must be operated efficiently, and the productivity of the land must be maintained.

Commercial farms play an important part in American agriculture. They are maintaining a high standard of progress in developing improved methods and practices, in maintaining farm resources and in securing low cost of production. From an investment standpoint they seem adequate; as efficient producers they are unsurpassed; the duties and obligations of their owners and managers as members of the community are great and in some cases might be more carefully gauged.

### Land Speculation.

Only indirectly has any reference been made to the individual who is expecting to purchase farm land purely as a speculation. While it is undoubtedly true that there is a speculative consideration in most land purchases, yet if this is the major consideration then it is most unfortunate for agriculture. There are few communities where farms cannot be bought if a sufficiently high price is bid for them. However, so long as the objective of the owner is a safe investment with at least a moderate return to capital and an opportunity to carry on an attractive profession with reasonable prospects of an acceptable living, the speculative aspect cannot be a serious menace to the community.

### SUMMARY

1) Farm land prices are greatly influenced by the earnings or net rent income from the land. This figure has been unusually high for two years.

2) Net rents as commonly computed make insufficient allowance for replacement of improvements and restoration of productivity. Consequently, the per cent actually earned is usually less than the apparent rate.

3) Neighborhood features and home facilities within the farm together with the net rent prospects must justify most of the capital value of the property.

4) Making certain that the farm is an *adequate unit* from the standpoint of location, living facilities, total production requirements and operating economy is highly important.

5) Needed replacement of improvements and restoration of soil productivity may add materially to the investment outlay.

6) The financing requirements should include (a) a safe down payment, (b) adequate operating capital, (c) a reserve fund to protect the business in case of crop failure or other unavoidable risk.

7) Money borrowed to complete the financing of the business should be on terms best adapted to the income prospects of the business, both as to rate and time of making payments on the loan.

8) A farm should not be bought with the expectation of retiring the loan used in its purchase by means of increase in land values due to fluctuations of the price level. Paper gains because of rising land values do not have debt paying power.

9) Investment in a good farm should be regarded as a long-time investment made primarily to give to the purchaser a home, and a favorable and permanent place of business with safety of investment a significant consideration.

10) Comparatively few farmers have even made significant additions to their capital resources through land speculation. Generally more is lost than is gained. Speculation in farm land is a serious detriment to agriculture.