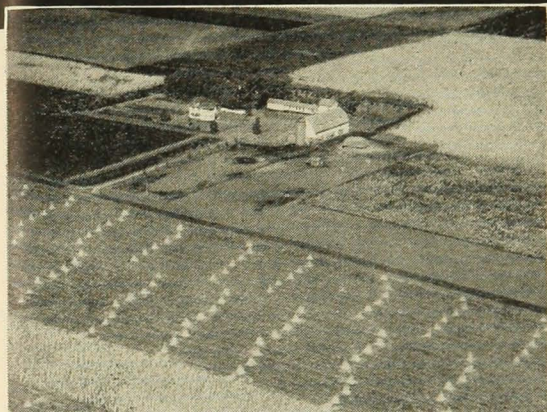


# Capital NEEDED TO FARM IN THE MIDWEST



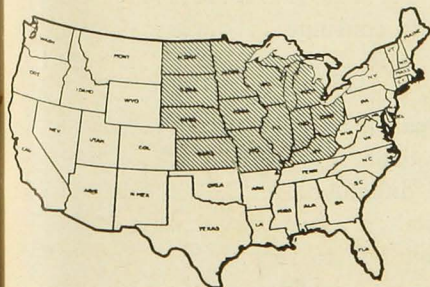
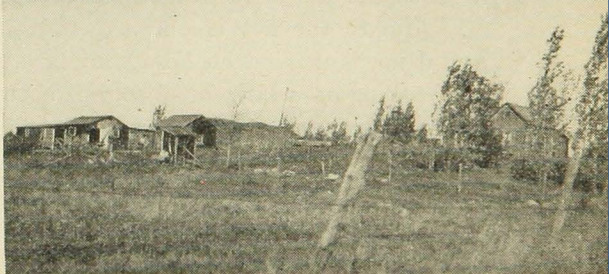
HOW MUCH IS NEEDED

WHERE CAN IT BE OBTAINED

HOW SHOULD IT BE USED

The price of a good farm may seem high. But a good farm, as shown above, offers the best opportunity for purchase or rental.

This farm may be purchased at a low price, but it offers little opportunity to make a fair living and its debt carrying capacity is low.



Agricultural Experiment Stations of Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, The Farm Foundation and Bureau of Agricultural Economics, U. S. Department of Agriculture, Cooperating.

North Central Regional Publication No. 5

*Agricultural Experiment Station*  
UNIVERSITY OF MINNESOTA

This archival publication may not reflect current scientific knowledge or recommendations. Current information available from Minnesota Agricultural Experiment Station: <http://www.maes.umn.edu>

## CONTENTS

	Page
Foreword .....	3
Suggestions to prospective farmers.....	4
Interest and experience in farming needed.....	7
An adequate farm is necessary.....	7
Increased capital now needed.....	8
Capital used on established midwest farms.....	8
Farm records show needed capital.....	8
Capital values adjusted to current basis.....	8
Average capital used.....	11
Income for debt payments, 1937-40.....	11
Limitations of the data.....	12
Debt-paying ability of midwest farmers.....	13
How to estimate capital needs and income for a farm.....	15
Plan the crop program.....	15
Plan the livestock program.....	16
Estimate the cost of farm real estate plus needed equipment	17
Plan the use of crops.....	19
Estimate labor needs.....	20
Estimate the farm receipts.....	20
Estimate the farm expenses.....	20
Estimate the net income.....	21
Capital needs depend on how you start.....	22
Working on a farm or in service occupations.....	22
Operating under a father-son farming agreement.....	23
Renting a farm.....	24
Buying versus renting a farm.....	26
Buying a farm at high prices involves risks.....	27
Renting a large farm compares favorably with owning a small one.....	27
Becoming a part owner.....	28
Wartime incomes are not likely to continue.....	29
Borrowing to obtain capital.....	29
Cautions in the use of credit.....	30
Amount of debt that can be repaid.....	30
Good farms can carry a heavier debt.....	32
Making improvements may be difficult.....	32
A deficiency judgment is possible.....	33
Short-term debts may be the hardest to repay.....	33
Adequate capital is a problem in any business.....	33

Accepted for publication November 10, 1945

29M-1-46

## FOREWORD

As this foreword is written in late October, demobilization of the armed forces that gave us victory in World War II is well started. At the same time, many war plant workers are seeking, or soon will seek, other employment.

A substantial number of the veterans and ex-war plant workers have a farm background, and many of them will consider the possibility of farming. In this connection the Agricultural Experiment Stations of the Midwest have available a large amount of information as to the capital now invested by, and the financial operations of, farmers in this region. They feel that this material will be most useful if it is combined on a regional basis. Accordingly the North Central Regional Land Tenure Committee has prepared this publication.

The data submitted are based on records kept by farm account cooperators who are using about as little capital as is consistent with the successful operation of the various types of farms described.

It is recognized that some men have been able to start farming, and to become successful farmers, with less capital than is here indicated. It is likely that this situation will continue in the future. However, for the majority of prospective farmers, the experience of these individuals who have been operating farms for a period of years should furnish a useful guide.

Attention is directed to the fact that while the total capital investment under 1945 prices for most types of farming runs from \$14,000 to \$25,000, many farmers are operating successfully as tenants with no investment in real estate. Also it may be noted that many of the present-day successful owner-operators got their start as tenants.

The subcommittee in charge of preparing this bulletin included:

W. L. CAVERT, Farm Credit Administration, 7th District	FRANK MILLER, University of Nebraska
E. O. HEADY, Iowa State College	L. J. NORTON, University of Illinois
J. A. HODGES, Kansas State College	K. T. WRIGHT, Michigan State College
O. G. LLOYD, Purdue University	G. A. POND, University of Minnesota, <i>Chairman</i>

This report was reviewed by all members of the North Central Regional Land Tenure Committee.

The Minnesota Agricultural Experiment Station provided the facilities for printing this report. It is being distributed by the several state experiment stations in the North Central Region.

NOBLE CLARK, *Administrative Adviser,*  
*North Central Regional Land Tenure Committee*

## Suggestions to Prospective Farmers

A large amount of capital is required to finance a farm business that gives reasonable prospect of success. However, the operator need not furnish all of the capital. To some a father-son agreement may be available, with the father supplying nearly all of the capital. A tenant furnishing all of the non-real estate capital will need at least \$4,000 to \$8,000, but under some leases the landlord may furnish a portion of this amount.

To set up as an owner-operator, \$14,000 and upwards will ordinarily be required for real estate and \$4,000 to \$8,000 for personal property, a total of \$18,000 or more.

Part of the capital needed to finance a farm business may be borrowed. The proportion of the total that may safely be borrowed is definitely limited. A farmer's earnings vary widely from year to year. The loan should be kept within the limits of the amount of earnings that will be available to meet annual interest and principal payments in unfavorable years. Special caution should be exercised in borrowing money to finance either real estate or non-real estate investments at a high price level even though prices of farm products at the time would seem to justify such a loan. It must be remembered that during the 20 or 30 years which ordinarily will be required to repay the real estate loan, prices of farm products and hence earnings may decline to the extent that repayment may become difficult or even impossible.

A few farmers have started farming with a 100 per cent debt and succeeded in paying out. As a rule these men succeeded because they (1) made a fortunate purchase, (2) were favored with unusually good prices and weather conditions, (3) had far more than average ability, or (4) did it only at the sacrifice of standards of family living.

In starting farming, especially on borrowed money, it is highly important to have a farm of adequate size and of sufficient productivity for the type of farming in which the operator wishes to engage. He should select an area where farmers have been gen-

erally successful, and not overestimate his ability to succeed where others have failed.

For the man with limited capital, renting a good farm is decidedly preferable to buying land where the soil is poor. A farm that is low in productivity may appear to be a bargain, but the buyer is likely to find such a farm a bad bargain. Usually farms low in productivity are more difficult to pay for from earnings than are more productive farms. The buyer may hope to increase the productivity. Occasionally this is possible, but usually one spends years of effort and ends up a disappointed old man.

The best method to follow in getting into farming depends upon the qualifications of the individual and the opportunities available to him. He may well take a short course in an agricultural college before starting farming, especially if he lacks farm experience. He may find that working for a successful farmer or becoming a junior partner with his father or some other progressive farmer with good land is a wise course to follow. Such an arrangement will be especially advantageous if he is short of capital. A lease agreement where only a small amount of personal property is owned by the tenant is another way of starting with limited capital.

Before a man starts farming he should appraise his own qualifications, then do his best to get located where he will have an opportunity to accumulate training, experience, and capital for final ownership of livestock, equipment, and a farm. A modest start as a hired man or a tenant may put him further ahead in the long run than if he attempted a too ambitious program at the beginning.

## **NORTH CENTRAL REGIONAL LAND TENURE COMMITTEE**

The North Central Regional Land Tenure Committee came into existence as the result of an informal conference sponsored by the Farm Foundation in the spring of 1939 for land economists from the agricultural experiment stations in the Midwest. As an outgrowth of this and subsequent meetings, the director of each station appointed one of his staff to the Regional Land Tenure Committee which also includes representatives from the United States Department of Agriculture.

### **Administrative Advisor**

Noble Clark, Madison, Wisconsin

### **Secretary**

Joseph Ackerman, Farm Foundation, Chicago, Illinois

### **State Members**

Harold Howe, Manhattan, Kansas, Chairman

C. L. Stewart, Urbana, Illinois

O. G. Lloyd, Lafayette, Indiana

William G. Murray, Ames, Iowa

John H. Bondurant, Lexington, Kentucky

E. B. Hill, East Lansing, Michigan

George A. Pond, St. Paul, Minnesota

O. R. Johnson, Columbia, Missouri

Frank Miller, Lincoln, Nebraska

Cap E. Miller, Fargo, North Dakota

J. I. Falconer, Columbus, Ohio

Gabriel Lundy, Brookings, South Dakota

Leonard A. Salter, Jr., Madison, Wisconsin

### **U. S. Department of Agriculture Cooperators:**

Bureau of Agricultural Economics

Marshall Harris, Washington, D. C.

Gladwin E. Young, Milwaukee, Wisconsin

John Muehlbeier, Lincoln, Nebraska

# Capital Needed to Farm in the Midwest

*How Much Is Needed? Where Can It Be Obtained?  
How Should It Be Used?*

BY A SUBCOMMITTEE OF THE NORTH CENTRAL REGIONAL  
LAND TENURE COMMITTEE

**A**DEQUATE capital is essential to success in farming. Most farmers realize this, but many beginners will underestimate its importance. With the close of the war, many ex-servicemen, war plant workers, and others will wish to farm. In so far as they have access to the needed capital and a satisfactory background of training, knowledge, and experience, they may well be encouraged to do so. Many, however, will lack such capital resources and background and will need guidance if they are to avoid disappointment and serious loss. The purpose of this report is to present information as to the capital needs of various types of farming in the Midwest, methods of using available capital most effectively, and the sources of capital to which farmers have access.

## **Interest and Experience in Farming Needed**

Factors other than capital are important for success in farming. Both the operator and his wife must be genuinely interested in farming and rural life. In perhaps no other business is the family partnership as important as in agriculture. The farmer must also be physically able to perform farm work, since even with present-day mechanized methods considerable physical strength and endurance are required. Modern farming involves both manual skills and technical knowledge that can be gained only by years of training and experience.

## **An Adequate Farm Is Necessary**

The success of a farmer to a large extent depends on the selection of an adequate farm. *No matter how low the price of poor soil, its low productivity is a handicap that can seldom be overcome.* A farm must be of ample size to insure an adequate standard of living for the family and be equipped with sufficient buildings, livestock, machinery, and other capital assets to make it a productive farm. It must be bought or rented at a price not in excess of its productive value; otherwise living standards will be curtailed, and in unfavorable years capital charges may prove more of a burden than the operator can carry.

### **Increased Capital Now Needed**

The day is past when a man can start farming with a team of horses, a plow, and a wagon. Many factors now make large amounts of capital essential to success in farming. The price of land is high. Modern farming requires a high investment in machinery and mechanical power. To use this equipment effectively a larger farm unit is required than formerly. Livestock is of growing importance and requires large investments not only for the animals themselves, but also for feed, buildings, fences, and other equipment. Maintenance and improvement of the land has become increasingly necessary and involves considerable expenditure. Many new methods of production make for added capital outlay.

### **CAPITAL USED ON ESTABLISHED MIDWEST FARMS**

#### **Farm Records Show Needed Capital**

Financing a farm business presents two major problems: (1) how much capital is required and (2) how can the needed capital be secured. No simple "rule of thumb" can be used to determine the exact amount of capital needed for farming. The most accurate information concerning the capital actually used by farmers is found in farm account records kept in cooperation with the agricultural colleges of the various states. Farm management workers in 11 midwest states furnished data from these records for the years 1937 to 1940 inclusive—the period between the extreme drouth of the thirties and the entrance of this country into World War II. The information included an itemized statement of the capital in use year by year. In some cases the capital was all furnished by the operator, and in other cases the landlord furnished a large portion of it. The farm records were selected to be representative of large areas. Since capital requirements vary by type of farming, the information was compiled on this basis. (See tables 1, 2, and 3.)

#### **Capital Values Adjusted to Current Basis**

The capital requirements for different types of farming in the 11 states for the four years 1937 to 1940 inclusive are shown in table 1. Since the prices of all classes of farm property except work stock have risen materially since 1940, the figures for the years 1937-40 were adjusted to the higher 1945 level (see table 3). The percentages used in this adjustment are shown in table 4. The high index for machinery reflects the 1945 price for second-hand machinery rather than a large increase in the price of new machinery.



Table 1. Average Investment and Net Cash Income per Farm by Farming Types and States, 1937-40

State and region	Average investment per farm						Net cash income
	Produc- tive live- stock	Work stock	Machin- ery and equip- ment	Feed, seed, and supplies	Total non-real estate	Real estate	
<b>NORTHERN GENERAL</b>							
Nebraska, eastern ...	\$ 915	\$295	\$1,062	\$ 821	\$ 3,093	\$14,823	\$ 1,275
Illinois, central and northern .....	891	341	935	1,017	3,184	12,197	1,183
Minnesota, south- eastern .....	1,577	358	1,370	1,052	4,357	11,319	1,395
Michigan, central ...	964	319	763	674	2,720	8,525	854
Ohio, north central..	1,004	259	876	783	2,922	8,134	648
<b>DAIRY</b>							
Illinois .....	1,554	284	1,262	1,176	4,276	13,124	1,490
Indiana, northern ...	1,450	343	943	854	3,590	9,026	1,373
Iowa .....	1,841	261	932	1,127	4,161	9,996	1,921
Wisconsin .....	1,650	346	1,300	597	3,893	9,227	1,383
<b>CASH GRAIN</b>							
Illinois, central and northern .....	667	277	1,972	2,480	5,306	32,969	2,369
Iowa .....	1,265	229	1,131	1,741	4,366	11,592	1,691
Nebraska, eastern....	532	228	1,010	658	2,428	15,731	1,000
<b>HOG RAISING</b>							
Nebraska, eastern....	1,574	349	1,605	969	4,497	18,187	1,257
Illinois .....	1,496	278	942	1,118	3,834	13,921	1,289
Iowa .....	1,956	357	771	1,468	4,552	11,938	1,617
Indiana, central .....	1,478	280	1,398	1,167	4,323	9,795	1,762
<b>CATTLE FEEDING</b>							
Illinois, central and northern .....	3,954	358	1,906	2,405	8,623	24,584	2,242
Iowa .....	4,368	494	1,514	2,978	9,354	20,174	2,285
Nebraska, eastern ...	2,350	284	2,204	1,537	6,375	21,970	1,648
<b>WHEAT</b>							
Kansas, central .....	1,168	215	2,017	1,026	4,426	24,456	1,144
Nebraska, western ..	574	85	2,091	1,358	4,108	17,494	1,388
S. Dakota, north cen- tral and northeast- ern .....	1,720	372	1,721	955	4,768	14,407	622
<b>SOUTHERN GENERAL</b>							
Illinois, southern.....	673	261	641	627	2,202	6,807	735
<b>TOBACCO-LIVESTOCK</b>							
Kentucky* .....	825	471	484	433	2,213	8,594	1,162
<b>CATTLE RANCHING</b>							
S. Dakota, northwest- ern .....	8,773	450	1,574	1,066	11,863	16,675	1,603
<b>SHEEP RANCHING</b>							
S. Dakota, northwest- ern .....	5,743	450	2,261	1,583	10,036	17,539	1,653

\* Located in outlying bluegrass and pennyroyal type-of-farming areas.

**Table 2. Number and Size of Farms, Amount of Livestock, and Labor Used by Farming Types and States, 1937-40**

State and region	Number of farms	Acres per farm		Amount of livestock			Months* man labor
		Total	Crop	Cows	Pigs weaned	Hens	
<b>NORTHERN GENERAL</b>							
Nebraska, eastern . . . . .	15	163	138	6.0	27	151	14.7
Illinois, central and northern . . . . .	16	142	100	6.0	38	103	16.0
Minnesota, southeastern . . . . .	35	155	103	13.1	47	156	21.2
Michigan, central . . . . .	66	124	72	7.3	13	85	17.0
Ohio, north central . . . . .	20	106	68	6.4	49	72	18.2
<b>DAIRY</b>							
Illinois . . . . .	17	142	79	14.0	30	103	20.0
Indiana, northern . . . . .	20	108	71	9.0	27	158	17.0
Iowa . . . . .	6	108	70	13.0	60	122	16.0
Wisconsin . . . . .	162	116	54	13.5	16	115	20.0
<b>CASH GRAIN</b>							
Illinois, central and northern . . . . .	16	220	186	4.0	19	79	18.0
Iowa . . . . .	5	180	132	5.0	56	124	16.0
Nebraska, eastern . . . . .	15	172	152	3.0	13	102	14.2
<b>HOG RAISING</b>							
Nebraska, eastern . . . . .	12	167	143	7.0	98	138	15.8
Illinois . . . . .	18	128	80	4.0	136	69	16.0
Iowa . . . . .	59	149	98	9.0	117	145	19.0
Indiana, central . . . . .	18	111	72	5.0	92	107	16.0
<b>CATTLE FEEDING</b>							
Illinois, central and northern . . . . .	19	223	132	4.0	77	93	22.0
Iowa . . . . .	104	243	160	7.0	140	136	25.5
Nebraska, eastern . . . . .	4	183	156	6.0	37	116	19.5
<b>WHEAT</b>							
Kansas, central . . . . .	10	329	264	8.1	13	114	20.2
Nebraska, western . . . . .	9	632	521	6.0	10	146	16.3
S. Dakota, north central and northeastern . . . . .	10	992	699	10.0	20	87	17.0
<b>SOUTHERN GENERAL</b>							
Illinois, southern . . . . .	17	150	78	4.0	20	168	16.0
<b>TOBACCO-LIVESTOCK</b>							
Kentucky† . . . . .	94	171	139	4.4	22	61	24.8
<b>CATTLE RANCHING</b>							
S. Dakota, northwestern . . . . .	10	4,500	95	90.0	6	40	22.0
<b>SHEEP RANCHING</b>							
S. Dakota, northwestern . . . . .	4	4,421	247	6.0	18	100	24.0

\* Includes labor by operator, farm family, and hired workers.

† Located in outlying bluegrass and pennyroyal type-of-farming areas.

### Average Capital Used

The non-real estate investment on the 1945 price basis ranged from \$3,700 to \$22,000 (see table 3). In seven of the 10 types of farming located in 26 areas the non-real estate investment was below \$6,000.

The total amount of capital per farm varied from approximately \$14,000 to \$60,000. These amounts include real estate, productive live-stock, work stock, machinery and equipment, and feed, seed, and supplies but no cash for current operating expense. Five of the areas studied had a total capital investment of less than \$20,000 per farm and seven had a total investment of over \$40,000. These data strongly emphasize the important role that capital plays in modern farming, especially in view of the fact that these figures represent averages for the smaller of the accounting farms.

### Income for Debt Payments, 1937-40

The average annual net cash income for all groups during 1937-40 was \$1,423. This net cash income as shown in table 1 has been computed on a "full owner" basis. It is assumed that the operator received all of the income and paid all of the current expenses including real and personal taxes. No interest charge was included in expenses. The net cash income represents the amount that was available for family living, debt payments, and savings. In addition to the net cash income, the farmer had the use of a house and farm products for family consumption. For example, the value of products for family consumption per farm was \$226 per year for the northern general farms in Minnesota. At retail prices it would have been approximately twice that much. For 1937-40 the average annual cash family living expenses in Iowa for a group of farm families keeping records was \$1,080, in Kansas \$971, in Nebraska \$859, and in Minnesota \$845, per farm family. In 1945 these expenses would be substantially higher. Family living expenses must be met out of net farm income before anything is available for debt and interest payments.

If \$800 to \$1,000 of this net income were used for living expenses, the amount that could have been used for debt payments is decidedly limited. It must also be remembered that income varies much more widely from year to year than does family living expenses. There may be times when the net income will be insufficient to cover living expenses. On the other hand, at 1945 prices a much larger sum would be available for debt payment. The purchaser of a farm now will be paying for it during the next 20 to 30 years, and the level of prices during that period will determine the amount available for debt payments, and hence limit the debt he can wisely assume in starting farming.

**Table 3. Investment by Farm Types and States, Adjusted to 1945 Basis**

State and region	Average investment		
	Real estate	Non-real estate	Total
<b>NORTHERN GENERAL</b>			
Nebraska, eastern .....	\$19,313	\$ 5,488	\$24,801
Illinois, central and northern.....	18,783	5,596	24,379
Minnesota, southeastern .....	15,054	7,538	22,592
Michigan, central .....	13,470	4,685	18,155
Ohio, north central.....	11,130	5,012	16,142
<b>DAIRY</b>			
Illinois .....	20,211	7,866	28,077
Indiana, northern .....	15,796	6,258	22,054
Iowa .....	14,894	7,418	22,312
Wisconsin .....	12,780	6,927	19,707
<b>CASH GRAIN</b>			
Illinois, central and northern.....	50,772	9,941	60,713
Iowa .....	17,272	8,111	25,383
Nebraska, eastern .....	20,498	4,358	24,856
<b>HOG RAISING</b>			
Nebraska, eastern .....	23,698	8,096	31,794
Illinois .....	21,438	6,850	28,288
Iowa .....	17,788	8,208	25,996
Indiana, central .....	17,141	7,930	25,071
<b>CATTLE FEEDING</b>			
Illinois, central and northern.....	37,859	15,450	53,309
Iowa .....	31,102	16,640	47,742
Nebraska, eastern .....	28,627	11,691	40,318
<b>WHEAT</b>			
Kansas, central .....	35,828	8,118	43,946
Nebraska, western .....	22,794	7,871	30,665
S. Dakota, north central and northeastern..	19,017	8,716	27,733
<b>SOUTHERN GENERAL</b>			
Illinois, southern .....	10,483	3,838	14,321
<b>TOBACCO-LIVESTOCK</b>			
Kentucky* .....	13,501	3,679	17,180
<b>CATTLE RANCHING</b>			
S. Dakota, northwestern .....	22,012	21,736	43,748
<b>SHEEP RANCHING</b>			
S. Dakota, northwestern.....	23,153	18,513	41,666

\* Located in outlying bluegrass and pennyroyal type-of-farming areas.

### Limitations of the Data

In interpreting the data presented in this report, the reader is urged to recognize certain limitations. They are intended only to stress the importance of capital in farming and not to indicate, except very roughly, differences in capital requirements among the different types. Obviously type of farming is not a precise basis for classification, espe-

Table 4. Basis for Adjustment of 1937-40 Inventory Values to 1945 Values

<i>State</i>	<i>Real estate</i>	<i>Productive livestock</i>	<i>Work stock</i>	<i>Machinery and equipment</i>	<i>Feed, seed, and supplies</i>
<i>Percentage 1945 is of 1937-40</i>					
Wisconsin .....	126	178	74	200	190
Nebraska .....	130	175	74	200	189-193
South Dakota .....	132	185	62	200	195
Minnesota .....	133	175	55	200	175
Ohio .....	137	170	41	209	185
Kansas .....	147	179	75	200	179
Iowa .....	149	170-185	68	200	188-198
Illinois .....	154	176-190	71	200	183-186
Michigan .....	158	165	48	200	210
Kentucky .....	160	183	94	200	175
Indiana .....	175	180	50	200	200
Average .....	146	177	65	201	189

cially if applied over an area of 11 states. The northern general farms differ from the dairy farms principally in less emphasis on dairying (see table 2). The cash grain farms are primarily corn selling farms, although many carry considerable productive livestock and sell other grains. The combinations of enterprises for any given type may vary materially among different states.

The reader is cautioned against using the net cash income figure as shown in table 1 to suggest the relative profit from different types of farming either within or among states because all groups are not equally representative of their type. Weather and other conditions affecting production were not strictly comparable over the entire area during the years 1937 to 1940. The data do indicate, however, the amount of income available for family living and debt payment.

### DEBT-PAYING ABILITY OF MIDWEST FARMERS

The progress in debt payment that farmers have made in the past may offer suggestions as to the amount of money a man starting farming now may safely borrow. Rather detailed records are available from farm account cooperators in six states covering periods ranging from 10 to 23 years. These records were used to determine the progress that the particular individual could have made in reducing his debt. It was assumed that each of these farmers started in the first year of record with a debt equal to 75 per cent of the value of real estate and 40 per cent of the value of non-real estate capital and further that the interest rate was 5 per cent on the real estate debt and 7 per cent on the non-real estate through 1934, and 6 per cent on the non-real estate debt in 1935 and later years. A summary of what these farmers

could have accomplished in debt reduction under these assumptions is shown in table 5.

Land prices at the time of purchase and the price of farm products during the period in which interest and principal payments become due were controlling factors in determining debt-paying capacity. The two groups of farmers referred to in table 5, whose records started in the twenties, would have had, under the assumptions made, a larger debt by 1940 than when they started. The index of farm land prices in Illinois, when the first group started, was 202 per cent of the 1935-39 level and in Iowa, 182 per cent. The amount of real estate debt was determined at this level of land prices. Farm product prices were relatively high at the time but started to drop sharply in 1930 and remained below the levels of the twenties until World War II.

On the other group of farms starting records in the thirties, the average index of farm land prices was only 108 per cent of the 1935-39 levels, so the assumed debt per acre was less than for those farms which started records in the twenties. The prices of farm products were likewise low when these initial valuations were made but rose during the period covered by the records. These men could have made substantial progress in debt reduction.

The obvious conclusion is that if one can start paying for a farm

**Table 5. Progress in Debt Reduction over 10 to 23 Years under Given Assumptions\***

State and region	Number of farms	Years covered	Assumed debt	Average change in assumed debt			Per cent of years interest was delinquent
				Total entire period	Annual change		
					1940 and earlier	1941-44	
<b>FARMERS STARTING 1921-27</b>							
Illinois, central	17	1921-24 to 1943	\$39,370	Incr. \$ 8,500	†	†	†
Iowa	9	1925-27 to 1944	42,994	Incr. 7,464	Incr. \$905	Decr. \$1,528	62
<b>FARMERS STARTING 1931-35</b>							
Minnesota, southeastern	11	1931 to 1943	12,764	Decr. 7,901	Decr. 284	Decr. 1,687	29
Illinois, central	10	1932 to 1944	30,375	Decr. 17,759	†	†	†
Kansas, central	10	1935 to 1944	17,685	Decr. 1,688	Incr. 443	Decr. 1,086	49
Nebraska, eastern	13	1935 to 1944	18,769	Decr. 16,726	Decr. 475	Decr. 3,469	23

\* Seventy-five per cent of initial real estate value and 40 per cent of initial non-real estate value.

† Data not available.

prior to a world war and get the benefit of rising prices in paying debts, rapid progress toward farm ownership can be made. The long-term Illinois and Iowa records also suggest that the reverse process of buying on a high land price and a high debt basis may make it necessary for the buyer to adopt a low standard of living for many years and in addition he may eventually lose the farm. Foreclosure studies in other states show the same probability.

### HOW TO ESTIMATE CAPITAL NEEDS AND INCOME FOR A FARM

Average capital requirements for groups of farms as used in the previous sections are useful in presenting a broad general picture of capital needs in farming. To help those who are interested in farming, however, it seemed advisable to present figures on financial requirements for a specific farm. Thus, a 120-acre northern general type of farm was chosen from south central Michigan as an example. All of the information presented in this chapter is based on this farm. It is suggested that as a person tries to determine his own financial requirements, he use the following outline and materials as a guide, adapting them to fit the type of farming and size of farm he has in view.

The value of following the recommended procedure will depend upon the extent to which one painstakingly seeks out such data as crop yields, amount of livestock to be kept, and machinery needed that fit the particular farm.

#### Plan the Crop Program

Set down the crops to be grown with average yields per acre. The method is illustrated below with the 10-year average crop acreage and production figures for the 120-acre Michigan farm.

<i>Crops</i>	<i>Acres</i>	<i>Yield</i>	<i>Total production*</i>
Corn for silage .....	4	6.9 T.	30.6 T.
Corn for grain .....	16	38 bu.	608 bu.
Oats .....	10	30 bu.	300 bu.
Wheat .....	10	20 bu.	200 bu.
Navy beans .....	10	14 bu.	140 bu.
Alfalfa hay .....	10	1.7 T.	17 T.
Mixed hay .....	10	1.3 T.	13 T.
Alfalfa pasture .....	10		
Mixed pasture .....	10		
<hr/>			
Total tillable land.....	90		
Nontillable pasture ....	25		
Farmstead, roads, etc..	5		
<hr/>			
Total .....	120		

\* For amounts available for sale see page 19.

One may believe that the best cropping system for a particular farm is very different from that found on it — for example, that much more corn, alfalfa, or other crop should be raised. However, it is well to keep in mind that the cropping system now in use is the result of several generations of experience with the particular soil and climate. There may be much better cropping systems for the farm than the one now in use, but the prospective buyer should go very slowly about bidding up the price of land on the basis of a greater return from the new system, especially if the cropping system on the particular farm is similar to that generally used on similar soils in the area.

Again, the best guide to future crop yields is the record of what has happened during the past 10 to 20 years. Statements of the owner may be checked by conversation with neighbors as to the yields secured on their farms, not the best that they recollect, but by pinning their statements down to particular fields and years. Also, the size of the cribs, the bushels of grain storage space, and the capacity of the mows are valuable indicators of productive capacity.

The average long-term yields for the county may be secured from the state crop reporting service, the county agricultural agent, or the state agricultural college. By considering the extent to which the particular farm has better or poorer soil than the average for the county, one could better determine whether reported yields are reasonable for the farm.

### Plan the Livestock Program

Decide on the livestock for the farm, keeping in mind the size of farm, available feed, character of the buildings, and labor supply. Also estimate production and determine the disposition of the livestock and livestock products.

<i>Kind of livestock</i>	<i>No.</i>	<i>Yield</i>	<i>Total production*</i>	<i>Used on farm</i>
<b>Dairy</b>				
Cows .....	9	6,500 lbs. milk	58,500 lbs. milk	3,500 lbs.
Heifers (raised) .	3			
Calves (raised) .	3			1 veal
Bull .....	1			
<b>Hogs</b>				
Sows .....	2	13 pigs (2 litters)	26 pigs	1 butchered 2 for gilts
Pigs (raised) ...	26	200 lbs. each	5,200 lbs.	
<b>Poultry</b>				
Hens .....	100	13 doz. eggs	1,300 doz. eggs	78 doz. eggs 15 hens (flock replacement)
Pullets (raised) .	75			
Broilers (raised)	75	2 lbs. each	150 lbs.	15

\* For amounts available for sale see page 19.



By calculating the amount of feed that is likely to be raised, one can go a long way toward determining the amount of livestock that can be carried. Records of the particular farm in an account book are much more valuable than verbal estimates. If the calculations indicate a substantially larger amount of livestock than has been carried in the past, they should be rechecked carefully. In addition to statements of the farmer, such items as the number of stanchions, the number of hog pens, and the size of the chicken house are all indicators of past production. Again, a good check is the amount of livestock carried on similar farms in the locality. In the case of dairy cattle, the local dairy plant may be able to furnish records of sales of butterfat or milk if authorized to do so.

In estimating anticipated production per cow, pigs to be raised per sow, eggs produced per hen, etc., one should keep in mind that it is normal to have a certain amount of loss from disease, accidents, failure to breed, etc. The county agricultural agent can give figures as to the usual production per animal of each kind of livestock that is important in the area.

### Estimate the Cost of Farm Real Estate Plus Needed Equipment

Make an estimate of the costs of such needs as land, buildings, machinery and equipment, livestock, feed, and crops. Note that \$19,790 is needed to acquire, equip, and stock this 120-acre Michigan farm at 1945 prices. Of this, \$13,200 is for real estate and \$6,590 for non-real estate capital. Note that a tenant operating this same farm would

<i>Items</i>	<i>Value (1945 basis)</i>	<i>Total</i>
<b>Land and buildings</b>		
Land—120 acres @ \$55.....	\$ 6,600	\$ 6,600
<b>Buildings</b>		
House .....	2,500	
Dairy barn .....	2,500	
Corn crib and granary.....	400	
Hog house .....	200	
Poultry house .....	300	
Machine shed and garage.....	400	
Milk house .....	100	
Fences .....	200	
Total buildings .....		6,600
<b>Machinery and equipment</b>		
Wagon .....	165	
Trailer .....	25	
Auto .....	300	
Tractor (2 plow, general purpose).....	1,075	
Electric motors .....	25	

<i>Items</i>	<i>Value (1945 basis)</i>	<i>Total</i>
<b>Machinery and equipment, <i>Continued</i></b>		
Tractor plow (2 bottom).....	120	
Tractor disc (7 ft. double).....	120	
Tractor cultivator .....	124	
Spike harrow .....	25	
Spring tooth harrow (12 ft.).....	57	
Cultipacker (10 ft.) .....	95	
Corn planter (tractor attachment).....	101	
Grain drill (13 hole).....	214	
Bean puller .....	25	
Mower (tractor drawn, 5 ft.).....	101	
Side delivery rake (tractor attachment).....	150	
Hay loader .....	160	
Hay ropes and slings.....	25	
Cans, pails, etc. ....	25	
Manure spreader (tractor attachment).....	200	
Small tools .....	25	
Total machinery .....		3,157
<b>Livestock</b>		
<b>Cattle</b>	<i>Number</i>	
Cows .....	9	1,125
Heifers (over 1 year).....	3	225
Bulls (over 1 year).....	1	150
Calves (under 1 year).....	3	75
<b>Hogs</b>		
Sows .....	2	80
Other hogs .....	13	130
<b>Poultry</b>		
Hens and pullets.....	100	150
Total livestock .....		1,935
<b>Feeds and crops</b>		
	<i>Quantity</i>	
Corn silage .....	15 T.	75
<b>Grain</b>		
Corn (shelled basis).....	300 bu.	360
Oats .....	150 bu.	120
Wheat .....	100 bu.	150
<b>Hay</b>		
Alfalfa .....	9 T.	153
Mixed .....	6 T.	90
Straw .....	10 T.	50
Total feeds and crops....		998
<b>Cash for operating</b> .....	500	500
Total investment .....		\$19,790

need over \$6,500 if he were to equip and stock it now according to a plan that has been representative of the area for a period of years.

Again a good guide as to needed machinery is a list of items which the particular farm has had in the past. If capital is limited, it may be that some pieces could be rented and thus leave needed capital for other purposes. It may also be that the former owner has gone with-

out items that would be highly profitable. However, it is easier to correct the mistake of starting with too little than of starting with too much.

### Plan the Use of Crops

Plan the use of the crops. Estimate the feed required by the animals kept. Detailed figures for doing this can be obtained from the state agricultural college. Determine the quantities of crops available for sale after the feed and seed needs are met. This analysis will show also the quantity of feed to be purchased.

#### Annual Feed Requirements

Classes of livestock	Animals	Corn	Oats	Wheat	Protein supplement	Hay	Silage	Other roughage	Pasture
<b>Cattle</b>									
Dairy cow (250 lbs. B.F.)	9	126	225		2,250	18	22½	4½	19
Dairy heifer, 2nd yr.	3	6	9		150	3	4½	1½	3
Dairy heifer, 1st yr.	3	15	30		300	3	1½		
Bull	1	5	10		250	1	2	½	
<b>Hogs</b>									
Sow and 2 litters to weaning	2	50	10	10	250				½
Spring pig (30-200 lbs.)	13	156			650				1½
Fall pig (30-200 lbs.)	13	182			975				
<b>Poultry</b>									
100 hens	100	60	26	30	2,000				
100 pullets to 6 months	75	15	7	8	600				
100 broilers to 3 months	75	6	4	2	150				
Total requirements ...		621	321	50	7,575	25	30½	6½	24

#### Summary of Crop Utilization

Amount	Beans	Corn	Oats	Wheat	Supplement	Hay	Silage	Roughage	Pasture
Total feed required	0	621	321	50	7,575	25	30½	6½	24
Total seed required	10		15	15					
Total requirements.	10	621	336	65	7,575	25	30½	6½	24
Total produced ...	140	608	300	200		30	30½	10	tillable 20 nontillable 25
To be purchased...		13	36		7,575				
For sale	130			135		5			

### Estimate Labor Needs

Estimate the labor needs. Good estimates can be made by finding the amount of labor used on local farms of similar size and type. Indicate the months to be furnished by the operator, his family, and hired labor. On this particular farm the labor used was as follows:

<i>Type of Worker</i>	<i>Months</i>
Operator .....	12
Family—other than operator.....	0
Hired .....	2
Total .....	14

### Estimate the Farm Receipts

Estimate the farm receipts. Set down the quantities of products that previous analysis indicates are available for sale. Determine the value of these at probable future prices. For the 120-acre Michigan farm three price levels were used—the averages for 1935–39, 1940–44, and for 1945. Note that at prewar prices gross receipts are \$2,429 compared to \$4,315 in 1945.

<i>Product</i>	<i>Amount sold</i>	<i>1935-39</i>		<i>1940-44</i>		<i>1945</i>	
		<i>Price</i>	<i>Receipts</i>	<i>Price</i>	<i>Receipts</i>	<i>Price</i>	<i>Receipts</i>
<b>Crop</b>							
Wheat	135 bu.	\$ .86	\$ 116.40	\$ 1.21	\$ 163.35	\$ 1.60	\$ 216.00
Hay (mixed)	5 T.	7.47	37.35	9.70	48.50	15.00	75.00
Beans	130 bu.	1.84	239.20	2.71	352.30	3.60	468.00
Total value sold			392.95		564.15		759.00
<b>Livestock and livestock products</b>							
Milk*	55,000 lbs.	1.85	1,017.50	2.72	1,496.00	3.30	1,815.00
Dairy cows	2	62.00	124.00	101.00	202.00	120.00	240.00
Dairy heifer	1	50.00	50.00	75.00	75.00	80.00	80.00
Dairy veals	4 (600 lbs.)	10.03	60.18	13.69	82.14	15.00	90.00
Hogs (fat)	23 (4600 lbs.)	8.77	403.42	11.18	514.28	14.00	644.00
Sows	2 (800 lbs.)	7.00	56.00	9.00	72.00	12.00	96.00
<b>Poultry</b>							
Eggs	1,222 doz.	.22	268.84	.29	354.38	.40	489.00
Hens	40 (200 lbs.)	.16	32.00	.20	40.00	.30	60.00
Broilers	60 (120 lbs.)	.20	24.00	.25	30.00	.35	42.00
Total cash farm receipts			\$2,428.89		\$3,429.95		\$4,315.00

\* Government subsidy not included.

### Estimate the Farm Expenses

Estimate the farm expenses. For the 120-acre Michigan farm, the three price periods used in estimating income were applied.

<i>Item</i>	<i>Amount</i>	1935-39	1940-44	1945
<b>Real estate taxes</b> .....		\$ 58	\$ 70	\$ 80
<b>Farm improvement repairs</b> .....		150	200	500
<b>Purchased livestock</b>				
Baby chicks .....	200	20	30	35
Breeding fees .....		8	8	10
<b>Livestock expenses</b>				
Veterinary and medicine.....		30	40	50
<b>Feed bought</b>				
Grain (corn) .....	13 bu.			
(oats) .....	36 bu.	30	35	43
Concentrates .....	7,600 lbs.	190	237	306
Grinding .....	22,700 lbs.	28	35	43
Salt and minerals.....		5	7	8
Total .....		253	314	400
<b>Farm power and machinery</b>				
Tractor .....		210	300	370
Auto .....		75	100	120
General machinery .....		100	130	160
Total .....		385	530	650
<b>Crop expenses</b>				
Corn .....	2 bu.	5	15	18
Grass .....	1½ bu.	30	40	50
Fertilizer .....	1½ T.	40	60	80
Combining .....	20 acres	60	60	65
Silo filling .....	30 T.	30	30	37
Total .....		165	205	250
<b>Hired labor (including cash cost of board)</b> .....	2 mo.	80	130	180
<b>Miscellaneous</b>				
Farm organization dues .....		6	10	13
Farm share telephone .....		6	8	10
Farm share electricity .....		20	20	27
Farm papers, etc. ....		5	7	10
Total .....		37	45	60
<b>Grand Total</b> .....		\$1,186	\$1,572	\$2,015

### Estimate the Net Income

Determine net income and the amount above family living expense that can be used for debt payment. These data have been computed on the basis of owner operation. For a rented farm income and expenses are divided between landlord and tenant in accordance with the terms of the lease.

<i>Item</i>	<i>1935-39</i>	<i>1940-44</i>	<i>1945</i>
Receipts .....	\$2,429	\$3,430	\$4,315
Expenses .....	1,186	1,572	2,015
Net income .....	1,243	1,858	2,300
Cash family living expense (estimate).....	600	800	1,000
Available for debt payment.....	\$ 643	\$1,058	\$1,300

### CAPITAL NEEDS DEPEND ON HOW YOU START

In general there are four ways to get started in farming: (1) work for someone, either as a hired man on a farm, at an agricultural service job, or outside of agriculture; (2) operate under a father-son agreement; (3) rent a farm and purchase equipment and livestock; (4) buy a farm and the equipment and stock necessary to operate it. The method used should depend upon the training, experience, and capital of the individual.

#### Working on a Farm or in Service Occupations

Working as a hired man on a farm may not appeal to many, but it does have advantages. It is a good way to gain experience and to become established in a community. Some capital may also be accumulated. Since farming methods have changed considerably in the last five years, those who have not been in close contact with agriculture would do well to obtain training by working with an up-to-date successful farmer. It is much cheaper to gain experience as a hired man working for an outstanding farmer than it is to experiment on one's own farm. Then, too, wages paid to hired men at the present time are higher than they have been for many years. From \$75 to \$125 a month with board and room furnished are not at all uncommon, and a considerable share of this can be saved. The principal advantages of this method of getting started are the value of the experience gained and the opportunity to become established in a community, which would not otherwise be available.

Working for someone outside of farming or in an agricultural service job may be the quickest way of accumulating financial resources. In fact, some individuals with experience in lines of work outside of agriculture may be able to accumulate capital needed to start farming faster in some other job than by working as a hired man or by renting a small farm. Returning veterans will have acquired abilities to perform many services closely connected with agriculture. Some have been trained as mechanics, electricians, carpenters, and for other occupations. Many veterans may find profitable outlets for their talents in their home communities, but not on farms, either working for some-

one already established or for themselves if they have enough capital to start. Experience indicates, however, that many who start in this way never become farmers. It is too easy to remain in the supposedly temporary occupation, which provides a regular wage, than to change to the uncertain income of farming. Also little training and experience of value in farming are gained in the service occupations.

In some communities custom work such as combining, operating a pickup hay baler, spraying orchards, and the like, are opportunities that may be developed further. Some persons may do this type of work and at the same time operate a small farm on a part-time basis. It is rather easy, however, to become so busy with custom work that no time is left to do one's own farm work in its proper season.

### **Operating under a Father-Son Farming Agreement**

Some have a father who is operating a farm and it may be that a father-son agreement can be developed. For the young man with a minimum of experience and capital this is one of the better methods, provided he and his father can work together. Such a plan gives the son the chance to become familiar with recent developments in farming and to benefit from his father's experience in the operation of a particular farm. In addition, less capital is needed to get started this way than by any other method. The exact amount of capital needed by the son depends upon the particular arrangement worked out with his father. Most agricultural colleges have suggested agreements which they will gladly furnish to anyone interested. These can be modified to suit particular conditions.

In most of these agreements the general plan is for the son to acquire an interest in the farm personal property as soon as possible. Sometimes this is done immediately if the son has funds. If not, he can give the father a note covering his share, then pay off the note from his earnings. In working out the agreement between the two parties, the son's share of the returns should be based upon the share of capital, labor, and management furnished by him. The division of income could well be made on the basis of the net farm income, i.e., the net returns after each party has been paid for his contributions and after all farm expenses have been deducted from the total farm income. If each party has contributed about equally in so far as time and management is concerned, then the net returns from the farm business could well be divided on a fifty-fifty basis.

The father-son method has the added advantage of maintaining the home farm in a far more productive state than if rented to outsiders. Frequently it also stimulates the father's interest in up-to-date farm-

ing. The income of the son depends largely upon the terms of the agreement, the size of the farm business, the productiveness of the soil, and how well he and his father manage the business.

Cooperative agreements need not be limited to father and son. Many farmers advanced in years have no son or other relative interested in taking over the home farm. These older farmers could very wisely select an enterprising young man from the neighborhood who does not have an opportunity on a home farm and make an agreement with him similar to the father-son agreement. This procedure could be of mutual advantage to both the retiring farmer and the young man.

### Renting a Farm

Renting a farm will be the method many young men will use in starting farming. Since there are many methods of renting, the one best suited to an individual will depend upon his farm experience and capital.

In all leases the landlord furnishes the real estate capital, and usually the tenant must have sufficient cash for his immediate operating and living expenses. The division of ownership of non-real estate capital supplied by the landlord and the tenant under three different types of share leases and also under the usual cash lease is shown in table 6. Specific contributions of capital and the division of income and expense under each type of lease vary somewhat in the several states and even within the same state. Details concerning each type of agreement can be obtained from the state agricultural colleges.

Because the data presented on pages 15 to 22 are for a 120-acre farm in Michigan, the following examples of different kinds of leases

**Table 6. Division of Non-Real Estate Capital between Landlord and Tenant under Various Types of Leases**

<i>Type of lease</i>	<i>Ownership of non-real estate capital</i>		
	<i>Machinery and power</i>	<i>Livestock</i>	<i>Feed</i>
Crop and stock share, 1/3 or 2/5 to tenant.....	Landlord	Landlord	Landlord and tenant
50-50 crop and stock share	Tenant	Landlord and tenant	Landlord and tenant
Crop share .....	Tenant	Tenant	Tenant
Cash .....	Tenant	Tenant	Tenant
Cash and crop share*....	Tenant	Tenant	Tenant

\* Under the cash and crop share lease, the tenant gives the landlord a share of the cereal crops and pays cash rent for hay, pasture, and sometimes corn-land.



**Table 7. Tenant's Share of the Investment, Income, and Expenses under Specified Share Leases on the 120-Acre Northern General Farm in Michigan**

Item	Tenant's share in specified leases			
	Total farm	1/3 Crop and stock share*	1/2 Crop and stock share†	Crop share‡
<b>Investment (1945 prices)</b>				
Real estate .....	\$13,200	\$ ....	\$ ....	\$ ....
Machinery .....	3,157	300	3,157	3,157
Livestock (productive) .....	1,935	....	968	1,935
Feed .....	998	335	500	998
Operating cash .....	500	165	250	500
Total .....	\$19,790	\$ 800	\$4,875	\$6,590
<b>Income (1940-44 prices)</b>				
Crops .....	\$ 564	\$ 188	\$ 282	\$ 220
Milk .....	1,496	600	897	1,496
Cattle .....	360	120	180	360
Hogs .....	586	195	293	586
Poultry and Eggs.....	424	168	254	424
Total .....	\$ 3,430	\$1,271	\$1,906	\$3,086
<b>Expenses (1940-44 prices)</b>				
Real estate taxes.....	\$ 70	\$ ....	\$ ....	\$ ....
Building repairs .....	200	....	....	....
Livestock bought (chicks) ....	38	13	19	38
Livestock, veterinary, etc. ....	40	13	20	40
Feed bought .....	314	105	157	936
Machinery expenses .....	530	125	470	530
Crop expenses .....	205	68	103	98
Labor .....	130	130	130	130
Miscellaneous .....	45	15	25	45
Total .....	\$ 1,572	\$ 469	\$ 924	\$1,817
Net income .....	\$ 1,858	\$ 802	\$ 982	\$1,269

\* Under this crop and stock share lease, the tenant receives 40 per cent of the receipts from dairy products, poultry, and eggs and 33 per cent of other income.

† Under this crop and stock share lease the tenant's share has been figured at 60 per cent of the sale of dairy products, poultry, and eggs and 50 per cent of other income.

‡ There is a wide variation from one region to another in the Midwest in crop share arrangements.

are also based on Michigan experiences. A comparison of the different types is found in table 7.

Under the one-third-two-thirds crop and stock share lease, the landlord usually owns all of the non-real estate capital except a third of the feed and seed and the tenant's automobile. The tenant, therefore, would be required to have approximately \$800 besides what is needed for his family living expenses. This \$800 includes approximately \$335 for feed, \$165 for operating cash, and \$300 for the share of his car which is part of the farm equipment. Under this lease the tenant usually receives about one-third of the income, furnishes all

the labor, and pays one-third of certain expenses as may be agreed. This is a good lease for a person short of capital.

The fifty-fifty crop and stock share lease is of growing importance in the Midwest. Under this lease the tenant usually provides the machinery, power, labor, and one-half the feed and livestock. Obviously it requires more capital than the one-third-two-thirds crop and stock share lease. The tenant's share of the operating capital on this particular farm under this arrangement would be approximately \$3,000 for machinery, \$1,000 for livestock, \$500 for feed, and \$250 for operating cash, or a total of about \$4,750. The farm income is usually divided equally but in some instances there are modifications better to fit particular conditions. Under the crop share lease, tenants usually pay cash for the use of pasture and buildings.

Tenants who have the capital may prefer the crop share lease. This contract differs from the fifty-fifty crop and stock share lease in that the tenant owns all the livestock and provides all the feed. In the example used previously, the total capital requirement is \$6,300. This lease gives the tenant greater freedom in the management of his livestock, and he may benefit accordingly.

Some tenants like the cash lease because of the increased independence. Under this lease they own all the stock, equipment, and feed, and pay a certain cash rental for the use of the farm. This lease requires more capital on the part of the tenant than other types. The tenant assumes a greater risk but if he does well he benefits accordingly, particularly when prices are rising. Under falling prices cash rent may exceed the amount that would be paid under a crop share contract.

In any lease it is essential that both the tenant and the landlord be cooperative and willing to go more than half way to make the agreement a success. Also, the farm must be sufficiently large and productive to provide adequate returns to each if both parties are to be satisfied.

### **Buying Versus Renting a Farm**

Much of the public discussion in regard to helping veterans start farming has been on the basis of purchasing a farm rather than renting or working for someone else. Few people realize that the amount which can be borrowed with the aid of the G. I. Bill guarantee is insufficient to purchase a farm of adequate size. From \$15,000 to \$20,000 is required at present price levels to purchase a 120-acre northern general farm in Michigan and to stock and equip it adequately (see pages 17 and 18). Where land is higher priced, the total investment might approach \$30,000.

Few prospective farmers have access to such amounts of capital. Thus, two choices are open: (1) a person may buy a farm, provided he has sufficient capital for a down payment, and give a mortgage for the balance, or (2) he may buy the necessary personal property and rent a farm. In the first case he will have to pay interest on capital supplied by someone else. If the mortgage is amortized over a period of years, a specified amount of interest and principal must be paid each year. If it is a short-term unamortized mortgage, and he has been unable to pay it, he may experience difficulties in renewing it at the end of the period. In the second case, he pays rent for the use of another person's capital in the form of a farm rather than a fixed interest and principal payment. When farm product prices are high, the rent is higher than the fixed interest payment on the mortgage. When farm product prices are relatively low, the opposite is true.

Satisfactory progress in paying off a mortgage depends to a considerable extent upon prices, cost, and weather in the 10 years following the assumption of the debt (see table 5). If the history of the period following World War I is repeated, many men who go heavily in debt to buy farms at the present time will have considerable difficulty in meeting their obligations.

### **Buying a Farm at High Prices Involves Risks**

From 60 to 80 per cent of the investment in a farm business is in real estate and the balance is in the non-real estate personal property needed to operate it. Since the outset of World War II, prices have increased materially in most midwestern states (see table 4). In some states land prices are now near their 1920 peak. Under these conditions it would seem to be better judgment for those with limited capital to use it in buying the livestock and equipment necessary to operate a rented farm of adequate size rather than to become obligated in the purchase of land at its present price. Of course, there are also financial hazards in buying stock and equipment at present high prices. Many farm management studies indicate that under usual farm prices a tenant earns a higher rate of return on his investment in operating equipment and livestock than owners do on their real estate.

### **Renting a Large Farm Compares Favorably with Owning a Small One**

An owner operator does not always have an income advantage over a tenant operator. This fact is shown by comparing the net returns to a tenant on a 240-acre northern general farm with those of an owner-

**Table 8. Investment and Financial Returns of a Tenant on a 240-Acre Northern General Farm in Michigan and for an Owner-Operator on a 120-Acre Similar Farm**

<i>Item</i>	<i>Tenant 240-acre</i>	<i>Owner-operator 120-acre</i>
Investments (1945 prices)		
Real estate .....	\$ . . . .	\$13,200
Equipment .....	5,000	3,157
Livestock .....	1,900	1,935
Feed, seed, and supplies.....	1,000	998
Operating cash .....	500	500
Total .....	\$8,400	\$19,790
Receipts (1940-44 prices) .....	\$3,700	\$3,430
Expenses (1940-44 prices) .....	1,800	1,572
Net income to labor and capital.....	\$1,900	\$1,858

operator on a similar 120-acre farm (see table 8). The estimated net income of the tenant operating under a fifty-fifty livestock share lease with an investment of \$8,400 would be \$1,900 on the basis of 1940-44 prices. The owner-operator of the smaller farm with an investment of about \$19,800 would have a net income of \$1,858 before capital charges were deducted. He would, however, have to provide \$11,400 more capital. If interest at 5 per cent is paid on this amount his net income would be \$12.88. This is \$612 less than he would receive as a tenant. In addition he would be obligated to meet principal payments on a mortgage. These figures suggest that to operate a larger farm as a tenant would not only require less capital but would be safer and more profitable than to own and operate a small farm on a less efficient basis.

### **Becoming a Part Owner**

An individual starting farming may wish to establish himself in the community on his own farm but lack sufficient capital to purchase a farm large enough to use mechanized equipment effectively and to provide a satisfactory living standard. Often it is possible for him to buy a small farm and then rent additional land to build up his size of business. Then, as he accumulates capital he may purchase additional land. One of the objections to starting in this way, especially in areas where livestock are important in the farm business, is that nearby land may not be available for purchase when desired. Scattered tracts of land may increase labor requirements and make it difficult to utilize pasture effectively.

NOTE: Line 8 of text should read: "his net income would be \$1,288."

### Wartime Incomes Are Not Likely to Continue

If farm product prices remain at their present levels, one could buy and pay for a farm within a reasonable length of time. Few people, however, expect them to remain at double prewar levels for long. If farm prices should stabilize at approximately halfway between the present and prewar levels and farm expenses decline about 15 per cent, then about the same average income would prevail as existed for 1940-44. During that five-year period prices received by farmers in the United States averaged 143 per cent of 1935-39 levels, and prices paid were 116 per cent. Gross income on a typical 120-acre farm in the northern general type-of-farming area for the 1940-44 period has been estimated at \$3,430 and operating expenses at \$1,572, leaving \$1,858 to pay the farmer's living expenses and interest and principal on debts. Total income under 1945 prices has been estimated at \$4,315 and expenses at \$2,015, leaving a net income of \$2,300. These are average figures. Individual operators would do much differently from this, depending on their ability and the quality of the land.

Studies show that men who bought farms at inflated prices after World War I and mortgaged them heavily frequently lowered their living standards. Many lost their farms as well as other savings. Such experiences suggest it would be unwise for prospective farm owners to become heavily obligated at the present time. This does not mean that young farmers should not start farming now but that they should exercise caution in going into debt at present price levels.

### BORROWING TO OBTAIN CAPITAL

Most beginning farmers find it necessary to borrow money. The usual sources of real estate credit are: (1) relatives and other individuals, (2) commercial banks, (3) life insurance companies, (4) federal land banks, and (5) the United States government (Farm Security Administration tenant-purchase loans.)<sup>1</sup>

<sup>1</sup> The G. I. Bill of Rights, Public Law 346, 78th Congress, is not included among the sources of credit. It is a provision for a government guarantee of private loans to returned servicemen under certain conditions. In general, the G. I. Bill provides that:

- a. The government will guarantee up to \$2,000 on a loan for starting a veteran in farming, other small business that offers reasonable prospect of success, or for the purchase of a home. In the agricultural field, this loan may be for the purchase of land, improvement of land already owned, or for the purchase of personal property.
- b. The total loan must be at least twice the amount guaranteed. Thus, on a \$3,000 purchase, \$1,500 would be guaranteed. On an \$3,000 purchase, only \$2,000 would be guaranteed. The guarantee decreases pro rata as payments are made. Thus, on a \$4,000 loan with 50 per cent guaranteed, a payment on principal of \$1,000 would reduce the guarantee by \$500.
- c. The interest rate is 4 per cent, and interest for the first year is paid by the government on the guaranteed portion.
- d. The Veterans' Administration must approve the project as offering reasonable prospect of success.
- e. The maximum period of the loan is for 20 years but may be for any shorter period agreed upon between borrower and lender that is in conformity with regulations issued by the Veterans' Administration. (Continued on next page.)

Common sources of non-real estate credit to which prospective farmers have access are: (1) relatives and other individuals, (2) commercial banks, (3) merchants, including implement companies, garages, feed stores, fertilizer companies, and general stores, (4) production credit associations, and (5) the United States government (including Farm Security Administration and emergency crop and seed loans).

### **Cautions in the Use of Credit**

As borrowing involves definite risks, the answers to the following questions should be considered first. Will the use of the money add to the net returns? Will money be available to repay the loan when it is due? Will the lender give the borrower an opportunity to work out of difficulties arising from sickness, poor crops, low prices, or livestock diseases? An illustration of a bad arrangement is a contract to purchase real estate with a small down payment and all of one's chattel property mortgaged as security for the down payment on the real estate. Whether the interest rate is 4 per cent or 6 per cent is much less important than making reasonably certain that the proposed undertaking will return a good margin above the interest cost. If the investment is unprofitable, the difficulty in repaying a \$1,000 loan will be in paying the principal rather than the \$40 to \$60 annual interest. Possible savings in interest are well worth considering, however.

### **Amount of Debt That Can Be Repaid**

The big question for many beginners is how much of the total investment required for a successful farming venture may be borrowed with reasonable safety. The Farm Credit Act has provided since 1933 that a maximum of 75 per cent of the Normal Agricultural Value<sup>2</sup> of a farm can be covered by a combined Federal Land Bank and Land Bank Commissioner Loan. In many areas, loans made on this basis

One feature of the bill which offers considerable possible aid to a veteran starting to farm is the provision for unemployment compensation for a period up to 52 weeks at any time within two years after discharge or two years after the termination of the war, whichever date is later, but in any event, not more than five years after the termination of the war. The compensation is \$100 per month or as much thereof as is needed to bring the total compensation to \$100 per month.

Thus, if an individual had not previously claimed benefits under the unemployment feature, he would be assured of \$100 per month for a 12-month period at any time within the life of the provision. This provision insures an income while getting the farm business established.

In connection with the G. I. Bill, attention may be called to the fact that for partially disabled veterans, rural areas offer excellent opportunities for getting a maximum amount of food and shelter out of a pension, especially when combined with such farming as is compatible with the handicaps of the individual.

It is obvious that the bill as it now stands will not provide sufficient capital for ex-service-men to begin farming either as owner-operators or as well-equipped tenants unless they have considerable additional funds.

<sup>2</sup> The amount a purchaser who is representative of the area and type of farm would be willing to pay and would be justified in paying for the property for agricultural purposes under usual conditions based on average production and normal prices for farm products.

have worked out satisfactorily for both borrower and lender. However, it should be recognized that many might have had considerable difficulty if it had not been for the larger income of the 1940's.

The debt-paying ability of the individual farmers for which group averages are shown in table 5 indicates that a 75 per cent real estate debt may be more than can safely be carried. For these farmers, however, a 40 per cent debt in non-real estate capital was also assumed so that the total load was somewhat in excess of 75 per cent of the real estate value.

Of the 17 Illinois farmers with records starting during the years 1921 to 1924 only three would have paid both the long-term and short-term debts by the end of 1943 under the assumptions which were made. One would have had a 61 per cent reduction, another a 6 per cent reduction, and 12 an average increase of 60 per cent in the total debt (see table 5). Of the nine Iowa farmers with records starting during 1925 to 1927, eight would have been able to pay off all of their short-term debts, but only two would have made any progress in paying the real estate mortgage by the end of 1944. Four would have reduced the total debt by percentages ranging from 7 to 39. The other five would have had increases in total debt by percentages ranging up to 87.

Three of the 11 southeastern Minnesota farmers whose records cover the years 1931 to 1943 inclusive could have paid the assumed debts in full, seven would have achieved an average reduction of 60 per cent, and one would have owed 6 per cent more at the end of the period than at the beginning. In the case of the 10 Illinois farmers with records for the years 1932 to 1944, all except one would have paid the short-term debt in full by 1944. One would have had more total debt at the end of the period than at the beginning, eight would have had an average decrease of 55 per cent, and only one would have paid the debt in full. In Kansas only one of the 10 farmers with records for the years 1935 to 1944 would have been able to pay his debt in full by the end of 1944, six would have achieved an average decrease of 28 per cent, and three would have had larger debts at the end of the period than at the beginning. Eight of the 13 Nebraska farmers whose records cover the years 1935 to 1944 would have paid their debt in full during the 10-year period. The other five would have paid from 33 to 87 per cent of their total debt.

These figures indicate that a 75 per cent real estate debt, especially when coupled with non-real estate debts, is far more than many good farmers have been able to carry in the past. It is important to note that these farmers who cooperate with the agricultural colleges in

keeping accounts are usually more capable than the average in their communities. In addition, they have the advantage of operating an established business under familiar conditions. Their situation is summed up in the following quotation:<sup>3</sup> "When one buys a farm, he usually experiences some disappointments. He may find that it is less desirable than he thought; perhaps the drainage isn't as good as it appeared in a dry time, the fields have more stone, the soil is less fertile, there is more weed infestation, or perhaps the buildings are not as satisfactory as they seemed when he was under the spell of the real estate salesman. All of these risks are avoided when one is considering a farm upon which he has lived for a number of years. Furthermore, by trial and error, the operator has worked out a farming system that is better adapted to the particular farm than a new operator can do except by making a few costly mistakes of his own. It all adds up to the fact that these operators, under the assumed conditions, were in a much better position to make financial progress than would be the average purchaser of a farm in the same region."

Even under these favorable conditions, interest would have been delinquent, wholly or in part, more than a third of the years covered by the data in table 5. Even the most lenient creditors would be likely to regard such frequent delinquency as adequate grounds for repossessing property. However, these farmers all stayed in business, and most of them made some financial progress because they had little or no debt at the beginning of the period instead of the heavy burden of real estate and non-real estate debt assumed in this study (page 14).

### **Good Farms Can Carry a Heavier Debt**

In connection with any real estate financing, a highly important consideration is the condition of the property. A debt for 65 to 75 per cent of the normal value of a farm with small periodical payments over a long period of years may be relatively safe for both borrower and lender in the case of a farm that has adequate buildings, fences and water systems in good repair, and land in a high state of productivity. At least it may be much safer than a debt of 40 per cent of normal value on a farm that needs extensive repairs to buildings, drainage, clearing, liming, and other soil improvements before the farm can be a desirable property.

### **Making Improvements May Be Difficult**

After a maximum first mortgage has been placed on a run-down farm, it is exceedingly difficult to borrow additional funds for real

<sup>3</sup> Pond, G. A., and Cavert, W. L. How Long Does It Take to Pay for a Farm Starting with Heavy Debts. *Journal of Farm Economics* 26:691. 1944.



estate improvements on satisfactory terms. As the productivity is likely to be low without the improvements, money is not readily available from income, and the borrower struggles for years with a problem that may be unsolvable except by either submitting to foreclosure or giving a quit claim deed.

### **A Deficiency Judgment Is Possible**

In connection with a real estate mortgage, the borrower should realize that, in case of foreclosure, if the proceeds from sale of the farm do not repay the debt in full, sufficient execution-exempt property to pay the deficit may be taken over by legal procedure. Therefore, in giving a mortgage on a farm, one not only risks the down payment, but other property not exempt from a deficiency judgment.

### **Short-Term Debts May Be the Hardest to Repay**

A beginning farmer should remember that machinery, breeding livestock, feed, and seed are necessary for the successful operation of a farm. He may have to borrow for these items, and for the purpose of this report all borrowings except those secured by real estate are classified as short-term debts. If he has a short-term debt, and there is a general decline in farm product prices or crops are poor, the creditor is likely to ask that the debt be paid in full or substantially reduced. The loss of one's working capital may mean that the small farmer becomes a day laborer. Therefore, before mortgaging personal property, a person should be certain that the proposed expenditure will return a profit—and it is best if calculations are made upon the assumption that conditions may become less favorable than they appear at the moment.

### **Adequate Capital Is a Problem in Any Business**

The reader, if he has persevered to this point, may feel that the prospect for starting farming as an owner with little capital is not encouraging. With other businesses, even more than with farming, one of the most common causes of failure is too large a proportion of borrowed capital.

If one is starting a filling station, restaurant, garage, or other small business, it is generally recognized that it is a better procedure to save a maximum amount of capital for operating purposes by rental of the necessary real estate.

**NORTH CENTRAL REGIONAL PUBLICATIONS**

- No. 1. **Marketing Livestock in the Corn Belt Region**  
By Committee on Livestock Marketing Research.  
Issued by South Dakota Agricultural Experiment Station,  
Brookings, as Bulletin 365, November 1942.
- No. 2. **Improving Farm Tenure in the Midwest**  
By North Central Regional Land Tenure Committee.  
Issued by Illinois Agricultural Experiment Station, Urbana,  
as Bulletin 502, June 1944.
- No. 3. **Trucking Livestock in the Corn Belt Region**  
By Committee on Livestock Marketing Research.  
Issued by Missouri Agricultural Experiment Station, Colum-  
bia, as Bulletin 479, June 1944.
- No. 4. **Preventing Farm Land Price Inflation in the Midwest**  
By North Central Regional Land Tenure Committee.  
Issued by Iowa Agricultural Experiment Station and Iowa  
Agricultural Extension Service, Ames, as Popular Bulletin  
P72, March 1945.
- No. 5. **Capital Needed to Farm in the Midwest**  
By a Subcommittee of the North Central Regional  
Land Tenure Committee.  
Issued by Minnesota Agricultural Experiment Station, St.  
Paul, as Bulletin 389, January 1946.