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Problems of Beginning Farmers in Iowa

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CONTENTS

SUMMARY

The investigation upon which this report is based, was made by interviewing 504 farmers who had begun farming as independent operators since 1930. The primary objectives were as follows:

1. To discover the problems which present major difficulties to young farmers in Iowa in their endeavor to become established in farming as independent operators.
2. To discover the ways and means commonly employed by beginning farmers in solving the problems encountered.
3. To ascertain the degree of success which is achieved by the typical young farmer in Iowa in solving the problems and overcoming the difficulties attendant upon establishment in farming.
4. To ascertain the nature and extent of the formal educational experiences of the typical beginning farmer in Iowa, and to reveal the deficiencies therein in the light of the problems he is called upon to solve in the process of becoming established in farming.

MAJOR PROBLEMS AND THEIR SOLUTIONS

The major problems reported fell into seven categories or problem areas, arranged in the order of their difficulty: (1) financial, (2) production of crops and animals, (3) housing, (4) securing foundation stock, (5) obtaining good land, (6) management and (7) securing equipment. The most frequently reported problems and ways of solving them may be briefly summarized as follows:

1. In the area of finance, the problems most frequently reported as presenting the greatest difficulty were lack of collaterial security, repaying loans when due, locating good sources of loans, unwillingness to borrow, small income, and high interest rates, in the order named. Borrowing was resorted to by the great majority, while small minorities had sufficient earnings and savings, or current income to meet financial obligations.
2. Among the major production problems were those arising from the diseases of hogs and cattle, low soil fertility, drouth and rain, and insect infestations. The practice of approved sanitation methods, the vaccination of hogs, seeding land to legumes and the rotation of crops were the chief remedies employed.
3. In the provision of housing, the major problems were occasioned by insufficient numbers, poor condition and poor arrangement of farm buildings. Little progress was reported in the correction of these deficiencies.
4. The major difficulties reported in obtaining foundation stock

seemed to be caused by the great scarcity of good breeding stock, especially in the breed desired, and the consequently high prices. Gradually increasing their herds by raising their own stock with the use of purebred sires was the solution employed most frequently. The ability to judge farm animals by "shopping about" and at public sales was also widely used.

5. For those not fortunate enough to have obtained land through inheritance, the scarcity and high price of good land constituted formidable problems. The majority who had solved this problem had done it through the aid of relatives.

6. Problems listed under management had to do with buying and selling, planning crop rotations, relationships with hired men and landlords, budgeting time and land utilization, in the order named. The advice of fathers and their own experience were reported as chief aids in solving management problems.

7. The obtaining of equipment evidently does not present serious difficulties to many young farmers. The high cost of new equipment was the chief difficulty reported. Over 50 percent solved equipment problems by using equipment belonging to relatives.

THE DEGREE OF SUCCESS ACHIEVED

Eighty-seven percent reported having made satisfactory progress in becoming established in farming; 96 percent of tenants expected to become owners; 30 percent reported farming more profitable and 21 percent less profitable than expected.

Sixteen percent had achieved ownership of their farms; 74 percent were tenants, while the remaining 10 percent were about equally divided between paid operators, partners and family members. Twenty-six percent had made changes, usually upward, in farming status. The mean size of farm, value of land and animal and crop yields approximated the state averages.

EXTENT AND NATURE OF FORMAL EDUCATION

The formal education of the young farmers, especially in agricultural subjects, would seem to be inadequate. While the mean length of schooling was 11 years, 21 percent had never gone beyond the eighth grade, and only 10 percent had attended college or trade school. Twenty-five percent had studied general agriculture, while 31 percent had a mean of 2.7 years of vocational agriculture in high school. Twenty-four percent had been members of 4-H clubs for a mean period of 4.2 years. Six percent had attended one or more agricultural demonstrations; 4 percent, agricultural short-courses; 6 percent, part-time classes; 24 percent, adult evening classes, and 3 percent had been members of rural young people's groups.

CONCLUSIONS

The financial problems involved in becoming established in farming constitute the most difficult ones encountered by the typical beginning farmer in Iowa. Private corporations furnish the chief source of borrowing, with private individuals a close second. For those who do not have near relatives who own land, the obtaining of good farm land is the most difficult problem.

In the area of production, the control of animal diseases presents the most difficult problems, followed closely by the obtaining of good foundation stock.

The housing situation on Iowa farms evidently presents serious difficulties to beginning farmers, while the problems involved in securing farm equipment are least difficult.

Management problems, especally those involved in buying and selling, in land utilization and in relations with hired labor, seem to present real difficulties.

The typical beginning farmer in Iowa starts his career as an independent operator as a tenant on a farm of average size and value. He probably does not make enough improvement on the land and farmstead to compensate for the loss of fertility and general depreciation. While a large percentage make some application of improved farm practices, the evidence indicates that in both the generality and thoroughness of application there is much to be desired.

The formal education or schooling of the typical beginning farmer seems to be seriously deficient in amount and content.

RECOMMENDATIONS

Instruction in agriculture on a vocational basis should be made available to all prospective farmers while in high school. Part-time classes for farm boys and young men not in school and evening classes in agriculture for adults should also be integral parts of the educational program in each rural community. The problems involved in becoming established in farming should receive major emphasis in both high school and part-time classes.

More emphasis than is now given should be devoted to the systematic study of the crucial financial problems involved in establishment in farming. In instruction on the production of animals the recognition and control of the more common animal diseases of the section should be stressed. Special emphasis should also be given to the development of a long-time home project program in livestock.

Instruction in farm management should deal with the utilization of land, buying and selling, relationship with land and with hired men, budgeting time and planning farm operations. The evaluation of the economic productiveness of farm land, and of the housing situation on any given farm should also be stressed.

Problems of Beginning Farmers in Iowa[1]

By J. A. STARRAK

NATURE AND SCOPE OF THE INVESTIGATION

The investigation reported in this bulletin was begun in the fall of 1938. A field worker visited the individual farmers at their homes and solicited the desired information.

Five hundred and four farmers who had begun farming as independent operators since 1930 were located and interviewed. The general plan followed in locating farmers interviewed was to obtain from several persons in the community centers the names of farmers in the surrounding area who had begun farming since 1930. All beginning farmers thus located were interviewed, and only two refused to give the information desired.

In the selection of the communities to be surveyed, an attempt was made to have them representative of the state with respect to the following factors: (1) The different farming areas or sections of Iowa, based upon the types of farming practiced; (2) the distribution of the communities within each area; (3) the proportion of the consolidated schools among the high school districts of the state; and (4) the proportion of communities offering vocational agriculture in their schools.

With some minor changes, the classification of farming areas described in the Iowa Basebook of Economic Facts, published by the Department of Economics of Iowa State College, was employed. The two cash grain areas were regarded as one, the two pasture areas as another, while the Western Meat and the Northeast Dairy were used as they appear in the basebook referred to above. The fifth area, namely the Eastern Meat Area, was not surveyed because of lack of funds.

In the tabulation and analysis of the data obtained, the farmers interviewed were classified into two groups: (1) Those who had had courses in vocational agriculture while in high school, and (2) those who had not had such instruction. These groups are referred to in this report as the "vocational" and "nonvocational" respectively.

NUMBER AND LOCATION OF FARMERS INTERVIEWED

The number of farmers, in each of the groups thus established, whose schedules were in usable form, are shown in table 1.

The distribution by counties of the farmers interviewed is presented in table 2.

[1] Project 596 of the Iowa Agricultural Experiment Station.

From the data presented in tables 1 and 2, and from observations to be noted later, it would appear that the farmers interviewed constitute a reasonably representative sampling of the young men in Iowa who began farming as independent operators during the years 1930-38.

TABLE 1. NUMBER AND CLASSIFICATION OF YOUNG FARMERS INTERVIEWED.

Farming areas	Counties in each area	Counties sampled		Farmers interviewed		Farmers with training in voc. ag.		Farmers without training in voc. ag.	
	No.	No.	%	No.	%	No.	%	No.	%
Cash grain	22	17	77.3	248	49*	73	29.4†	175	71.6†
Pasture	23	12	52.2	78	15	10	12.8	68	87.2
Western meat	19	10	52.7	54	11	22	40.7	32	59.3
N. E. dairy	18	11	61.1	124	25	52	41.9	72	58.1
Total	72	50	69.5†	504	100	157	31.0	347	69.0

*Percentages based on total number interviewed.
†Percentages based upon number interviewed in each area.

TABLE 2. THE NUMBER AND THE LOCATION BY FARMING AREAS AND COUNTIES OF THE FARMERS INTERVIEWED.

Cash Grain		Pasture		Western Meat		N. E. Dairy	
County	No.	County	No.	County	No.	County	No.
Buena Vista	16	Appanoose	12	Cass	8	Allamakee	15
Carroll	10	Clark	12	Crawford	8	Black Hawk	15
Clay	14	Decatur	9	Guthrie	1	Cerro Gordo	11
Dickinson	6	Des Moines	7	Harrison	3	Chickasaw	21
Emmet	10	Lee	9	Monona	16	Clayton	1
Franklin	18	Madison	10	Montgomery	6	Delaware	20
Greene	20	Warren	8	Page	6	Floyd	12
Grundy	9	Washington	5	Pottawattamie	5	Mitchell	14
Hamilton	20	Wayne	6	Woodbury	1	Winnebago	5
Hardin	38					Worth	9
Humboldt	11					Hardin	1
Kossuth	4						
Lyon	21						
Osceola	14						
Palo Alto	3						
Sac	19						
Story	8						
Webster	7						
Totals	248		78		54		124

PERSONAL DATA ON FARMERS INTERVIEWED

The schedule used in this investigation called for certain personal data which were regarded as relevant to its central problem. Only the most pertinent of such data can be presented in this report.

AGES OF FARMERS

The farmers interviewed ranged in age from 16 to 52 years, with a mean of 26.5. The mean age at which they began to farm as independent operators was 22.8 years. The difference of 3.7 represents the mean number of years spent as independent farm operators at time of interview. The differences among the four farming areas in this respect were small and insignificant.

WHERE FARMERS WERE REARED

Ninety-seven percent of the farmers interviewed were reared wholly on farms, 2 percent wholly in towns and 1 percent in both town and farm. This confirms what has already been recognized, namely, that the movement from town to farm is negligible. The differences among the four farming areas on this point were found to be small and statistically insignificant.

Furthermore, only a small percentage of the fathers of the young farmers were reared in towns, and the difference among the farming areas in this respect was also slight.

MOBILITY OF YOUNG FARMERS

Seventy-seven percent of the farmers interviewed were farming in the county in which they were reared. Seventy-eight percent of those who had left their home counties were farming in adjacent counties, and only 5 percent had not been reared in Iowa. The differences in migration among the different farming areas are statistically insignificant. The practice of basing agricultural instruction in high school upon local conditions and problems would seem to be warranted by these data.

CURRENT OCCUPATIONAL STATUS OF FATHERS

The fathers of 63 percent of the farmers were still actively engaged in farming. Seventeen percent of the fathers were retired, and the remaining 20 percent were deceased. Because at least a few of the fathers would have retired since the young farmers began farming on their own, the number of the former

active at that time would be somewhat greater than 63 percent.

Considerable differences were found among the different farming areas in the percentages of fathers still farming. The greatest difference was noted between the Cash Grain Area with 58 percent and the Western Meat Area with 78 percent of the fathers still active. This difference of 20 percent is highly significant.

AGE OF FATHERS

Another factor affecting the likelihood of the prospective farmers' having to leave home to get a start is the relative youthfulness of their fathers. The mean age of the fathers in each of the farming areas at time of survey was between 58 and 59 years. During the preceding 2 or 3 decades, farmers in Iowa were retiring at an earlier age than since 1930, making it easier for young men to secure land and farming opportunities.

EDUCATION OF FATHERS

The extent of formal education received by the fathers ranged from 0 to 16 years, with a mean of 8.6 years. The means for all areas were practically identical. The corresponding mean for the mothers was 9.0 years.

FATHERS' OCCUPATIONAL HISTORY

While 79 percent of the fathers had not engaged in any occupation other than farming, the remaining 21 percent had had experience in a great variety of occupations. Among the 32 different occupations those most frequently reported include carpentry, merchandising, custom work, selling, railroading, teaching and government service.

Thirty-five percent of the fathers had taken all of the three following steps in the "agricultural ladder," i. e., hired man, tenant and owner, with small differences in percentages among the four farming areas. Twenty-three percent had begun farming as tenants and had later achieved ownership. Eighty-eight percent of the fathers were or had been farm owners as contrasted with 81 percent in a similar age group, aged 55 and over in Iowa, as reported in the 1930 census. The difference suggests that the sons of owners are more successful in becoming established in farming than are the sons of tenants, as might be expected.

CURRENT OCCUPATIONS OF BROTHERS

Fifty percent of the brothers of the farmers interviewed were

farming, while slightly over 22 percent were either attending school or were staying at home. The remaining 28 percent were engaged in a great variety of occupations, of which about 50 percent are more or less closely related to farming.

THE FINDINGS OF THE INVESTIGATION

OUTSTANDING PROBLEMS AND DIFFICULTIES

One of the major purposes of this investigation was to identify and examine closely those problems which present real difficulties to typical young men in Iowa in their endeavor to begin farming for themselves. With this in mind, each young farmer interviewed was asked to state (1) The most difficult problems encountered in becoming established in farming, (2) the relative difficulty of the problems, (3) the chief causes for the difficulties experienced and (4) the ways and means employed in the solution of his problems. The information thus obtained will be presented in this section of the report.

The problems as given by the young farmers interviewed seem to fall into the following seven categories or areas, arranged in the descending order of difficulty of solution: (1) obtaining adequate finances, (2) producing of crops and animals, (3) providing proper housing, (4) obtaining good foundation livestock, (5) obtaining good farm land, (6) managing the farm business and (7) obtaining adequate equipment. As might be expected from the complex character of farm problems, considerable overlapping among these categories exists.

DIFFICULTY RANKING OF THE PROBLEMS ENCOUNTERED

The farmers were requested to rank the different problems encountered in becoming established in farming on the basis of the comparative difficulty of their solution. The rankings thus obtained are summarized in table 3.

The comparative difficulty presented by problems in the seven areas is indicated in the bottom line of table 4, which shows financial problems ranking as most difficult and the obtaining of equipment as the least difficult, with the others in between as indicated.

The figures in parentheses along this bottom line indicate the composite score based upon the rankings received by each; the smaller the score, the greater the difficulty.

The distinctly bi-modal character of the distribution of the rankings given to the problem of obtaining good farm land marks it for special interpretation. Its relatively low score is seen to

TABLE 3. COMPARATIVE DIFFICULTY OF PROBLEMS ENCOUNTERED, EXPRESSED IN PERCENTAGES OF FARMERS REPORTING.

Rank	Financing	Production	Housing	Securing livestock	Obtaining land	Management	Equipment
1	44*	20	14	12	34	15	5
2	22	23	25	18	16	14	13
3	14	20	21	24	4	13	19
4	9	16	18	17	4	10	18
5	6	9	10	15	4	12	21
6	5	9	8	9	13	13	24
7	1	3	5	2	34	24	3
Total reporting	52‡	53	56	47	40	27	39
Placement in order of difficulty	1†(277)	2(308)	3(330)	4(349)	5(378)	6(425)	7(433)

*Based upon number reporting.
†Based upon composite scores.
‡Based upon number interviewed.

be due chiefly to the large percentage (34) who rated it as least difficult. A close investigation of our schedules reveals that the farmers in this group were those fortunate enough to have received their land from parents or other relatives, thus experiencing no great difficulty in this respect.

The fact that almost an equal percentage ranked it as the most difficult and 50 percent as first and second in difficulty, indicates clearly that for those who do not receive their land from relatives, the problem of obtaining good farm land is a difficult one to solve. Based upon the first and second placings alone, the problem of obtaining farm land runs a close second to that of obtaining adequate finances.

The relatively high percentage finding management problems least difficult of solution may be explained, at least partially, by the fact that advice and assistance are given to the young farmers by their parents, who in many cases still share in the actual ownership and management of the home farm. It might also be true that all management problems are not identified as such by the typical beginner.

While the difficulty presented by problems is only one factor which should be considered in determining the relative emphasis to be given to them in an instructional program, it doubtless is an important one. Teachers of vocational agriculture, therefore, might well check the emphasis given to the different aspects of agriculture in their current programs against the comparative difficulty of the problem areas as shown in table 3.

MAJOR DIFFICULTIES REPORTED IN EACH PROBLEM AREA

The major difficulties encountered in each of the seven problem

areas listed above, along with the methods employed in solving or overcoming them, are described in the pages immediately following.

OBTAINING ADEQUATE FINANCES

It is obvious that the difficulty of solving many, if not most, of the problems encountered in getting established in farming, as in any other enterprise, would be considerably lessened if unlimited financial resources were available. However, certain specific difficulties met with in securng adequate finances were reported by the farmers interviewed and are summarized in table 4.

Forty percent of the young farmers interviewed reported the financial problems involved in becoming established in farming as among the most difficult of solution. It was not possible to obtain from all of them exact statements or descriptions of the specific difficulties encountered. Moreover, the specific difficulties reported tend to overlap and influence one another considerably. As might be expected, the non-possession of acceptable collateral security was the most common difficulty reported, accounting for almost one-third of all reported. Difficulty in repaying loans was reported by over one-fifth, which perhaps is lower than might be expected. Ignorance or lack of knowledge concerning financial principles and techniques probably functioned in more cases than reported, being a possible factor in several of the other categories listed; namely, "hard to borrow," "high interest rates." "hard terms," "borrowed too much," "deciding when to borrow." These taken together account for

TABLE 4. MAJOR DIFFICULTIES ENCOUNTERED IN SECURING ADEQUATE FINANCES.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
No collateral security	21	50*	10	31	0	0	8	19	39	32
Repaying loans	3	7	14	44	3	43	7	17	27	22
Hard to borrow	6	14	0	0	3	43	15	37	24	20
Reluctance in borrowing	1	2	2	6	0	0	8	19	11	9
Small income	2	5	6	19	0	0	0	0	8	7
High interest rates	3	7	0	0	0	0	2	5	5	5
Hard terms	3	7	0	0	0	0	1	2	4	4
Borrowed too much	1	2	0	0	0	0	0	0	1	1
Deciding when to borrow	0	0	0	0	1	14	0	0	1	1
Ignorance of finance	1	2	0	0	0	0	0	0	1	1
Demand of increasing business	1	2	0	0	0	0	0	0	1	1
Total reporting financial problems	87	35†	39	50	9	17	68	55	203	40
Number reporting specific difficulty	42	17†	32	41	7	13	41	33	122	24

*Percentages based upon number reporting specific difficulties.
†Percentages based upon total number interviewed.

approximately one-third of the difficulties reported.

Those responsible should check this need for instruction in financial problems against the current offerings in vocational agriculture and their placement in the whole program. It might well be that the financial problems involved in establishment in farming can be more effectively taught in part-time and adult evening classes than in the regular day school classes.

It is interesting to note the wide variations which occur among the different farming areas in respect to the frequency of the specific difficulties listed. For instance, the difficulty of repaying loans seems to be a much more frequent difficulty in the Pasture and Western Meat Areas than in the other two. On the other hand scarcity of sources of borrowing is more prevalent in the Western Meat and the Northeast Dairy Areas, whereas in these same areas the lack of collateral security is not a serious difficulty.

PRODUCING CROPS AND LIVESTOCK

The findings of this investigation do not seem, at first sight, to support the criticism recently directed against the current program in vocational agriculture; namely, that too much attention is being given to problems of production and not enough to the economic and social phases of agriculture. At least the number of farmers reporting difficulties in the solution of their

TABLE 5. MAJOR DIFFICULTIES ENCOUNTERED IN SOLVING PROBLEMS OF PRODUCTION.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Disease of hogs	52	50*	21	38	8	42	40	41	121	44
Run down farm	6	6	10	18	2	10	34	35	52	19
Disease of cattle	25	24	8	14	2	10	16	16	51	18
Drouth and rain	3	3	16	29	5	26	3	3	27	10
Control of insect	1	1	15	27	0	0	0	0	16	6
Growing legumes	4	4	0	0	0	0	3	3	7	3
Wet land	0	0	0	0	0	0	6	6	6	2
Control of weeds	4	4	0	0	0	0	2	2	6	2
Hog production	2	2	0	0	1	5	2	2	5	2
Disease of horses	4	4	1	2	0	0	0	0	5	2
Breeding of stock	0	0	0	0	0	0	4	4	4	1
Feeding livestock	3	3	0	0	0	0	0	0	3	1
Alkaline soils	1	1	0	0	0	0	2	2	3	1
Sheep disease	1	1	0	0	1	5	0	0	2	1
Soil erosion	0	0	1	2	0	0	1	1	2	1
Miscellaneous (one each)	4	4	0	0	0	0	1	1	5	2
Total reporting production problem	105	43†	56	72	19	35	98	79	278	55

*Percentages based upon number of difficulties reported.
†Percentages based upon total number interviewed.

problems of production is greater than for any of the other problem areas. It may be, of course, that difficulties of production are more tangible, occur more frequently and consequently are more readily seen. Another likely cause is that the emphasis which instruction in this area has received has made the farmers more cognizant of the existence of the problems involved. The nature of the specific difficulties encountered in their production problems and the number of farmers reporting them are summarized in table 5.

Perhaps the most interesting fact revealed by an inspection of table 5 is the fact that nearly two-thirds of the difficulties reported were concerned with the control of animal diseases. Almost 10 percent report difficulties caused by drouth and rain, the incidence of which is outside of the farmers' control. This leaves only about 25 percent of the farmers reporting the remainder of the major difficulties listed. Of these the control of insects accounts for 6 percent.

The fact that most, if not all, of the difficulties reported by the farmers as being most infrequently encountered are those which have been generally included in the agricultural curriculum both in high school and college, might be regarded as evidence of the effectiveness of such instruction in the past, or it might be taken as evidence that the program of agricultural instruction had neglected the specific production problems in which the young farmers experienced the greatest difficulty.

The large number reporting difficulties with animal disease suggests that more instruction along this line should be given. This instruction should probably deal with the characteristics of the common diseases of the types of livestock commonly raised in Iowa, the recognition of the symptoms of diseased conditions, the sanitary measures necessary to prevent the spread of the contagious and infectious diseases and perhaps the ability to apply some of the most elementary remedies.

The very small incidence of diseases of poultry reported is hardly in keeping with observations the writer has made on Iowa farms. Probably the relatively small monetary value of individual chickens, coupled with the large number usually kept and the fact that poultry raising is a minor enterprise on all but a very few Iowa farms, reduce the ranking of this factor as a serious difficulty or problem for the individual farmer.

As might be expected, because of differences in climatic conditions, in topography and in type of agriculture practiced, there is considerable variation among the four farming areas covered in the reported frequency of the various difficulties encountered. This would suggest to teachers of vocational agriculture the

TABLE 6. MAJOR DIFFICULTIES ENCOUNTERED IN PROVIDING PROPER HOUSING.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Not enough buildings	75	61*	20	39	10	59	20	27	125	47
Poor condition of buildings	43	35	32	62	7	41	49	67	134	50
Poor arrangement of buildings	4	3	0	0	0	0	2	3	6	2
Need separate dwelling	1	1	0	0	0	0	2	3	3	1
Total reporting on problem	123	49†	52	66	18	33	74	60	267	53
Total reporting specific difficulty	123	49	52	66	17	32	73	59	265	52

*Percentages based on number reporting specific difficulties.
†Percentages based upon total number interviewed.

desirability of adjusting the content of their instruction to the needs and conditions of their respective communities.

PROVIDING PROPER HOUSING

The provision of proper housing for their families and livestock presented major difficulties in becoming established in farming to over 50 percent of the farmers interviewed. The major difficulties reported and the number reporting are summarized in table 6.

The insufficient number and the poor condition of farm buildings constitute 97 percent of the major difficulties reported in housing. The others reported are few enough to be practically negligible as major problems, except to the rare individual farmer experiencing them. The need for new buildings and for extensive repairs to existing buildings indicates the existence of an enormous potential demand for materials and labor. Should the income of the farmers be increased materially, one might well expect this demand to become operative, and become a great stimulus to business and employment.

A further implication which might be made from the data in table 6 is that teachers of vocational agriculture should check carefully the nature and extent of their offerings in building repair. The same might be said with reference to the planning of new buildings. Of course, the situation with respect to tenancy would prevent a large part of the instruction in the field from becoming immediately effective, since the average tenant, unless his landlord cooperated, could hardly afford to do much repair work, even if he has the necessary ability and desire to do so. It is also suggested that instruction in farm building construction and repair might be given effectively in part-time and adult classes.

TABLE 7. MAJOR DIFFICULTIES ENCOUNTERED IN OBTAINING GOOD LIVESTOCK.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Good grade scarce	50	62*	15	39	4	45	19	28	88	45
Price too high	16	19	1	2	2	22	20	30	39	20
Hard to pay for	1	1	17	44	0	0	12	18	30	15
Natural increase slow	10	12	5	13	2	22	2	3	19	10
Breed scarce	2	3	0	0	1	11	6	9	9	5
Deciding when to buy	0	0	1	2	0	0	3	6	4	2
Deciding number to buy	1	1	0	0	0	0	2	3	3	1
Selection of good individuals	0	0	0	0	0	0	2	3	2	1
Deciding where to buy	1	1	0	0	0	0	0	0	1	1
Starting from scratch	0	0	0	0	0	0	1	2	1	1
Total reporting livestock problem	81	33†	38	49	9	17	68	54	196	39
Total reporting specific difficulty	81	33	38	49	9	17	67	53	195	39

*Percentages based on number reporting difficulty.
†Percentages based on number interviewed.

OBTAINING GOOD STOCK

Thirty-nine percent of the farmers interviewed found the problem involved in securing livestock difficult to solve. The specific difficulties reported are presented in table 7.

An inspection of table 7 reveals that the first five of the specific difficulties listed are closely related to one another and are due largely to factors and conditions outside the direct control of individual young farmers. Moreover, they account for 95 percent of the total number of difficulties reported. The last five items in table 7 account for less than 6 percent of the total number of cases. This suggests either that problems of these types do not occur, or if they do, the farmers are able to solve them without difficulty. A third possibility exists, namely, that the significance of difficulties of this type is not thoroughly appreciated by the young farmers and therefore they are overlooked as important factors in the problem of securing good livestock.

There exist sufficient differences among the various farming areas in the percentages reporting the various difficulties to suggest that some distinction should be made between them in the relative emphasis placed on each of the latter in the organization of courses of study in vocational agriculture for the respective farming areas.

OBTAINING LAND ON WHICH TO FARM

The major difficulties reported in solving the problems of securing farm land, and the number and percentage of farmers reporting the existence of each, are presented in table 8.

TABLE 8. MAJOR DIFFICULTIES ENCOUNTERED IN SECURING FARM LAND.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Scarcity of desirable land	64	85*	13	76	6	100	39	71	122	80
No collateral security	4	6	3	18	0	0	12	22	19	12
High rent	4	6	0	0	0	0	0	0	4	3
No farming equipment	0	0	0	0	0	0	3	5	3	2
Finding farm with good buildings	1	1	0	0	0	0	1	2	2	1
Not married	1	1	1	6	0	0	0	0	2	1
Sale price too high	1	1	0	0	0	0	0	0	1	1
Total number reporting difficulty	75	31†	17	24	6	11	55	44	153	30

*Percentage based upon number reporting specific difficulty.
†Percentage based upon total number interviewed.

An inspection of table 8 reveals some rather interesting items. It is to be noted that 30 percent of the farmers interviewed admitted having met serious difficulties in obtaining farm land. The proportion reporting on this problem ranged from 11.1 percent in the Western Meat Area to 44.4 percent in the Northeast Dairy section.

In the list of specific difficulties encountered, the scarcity of desirable land accounts for 84 percent of those reported, since it seems safe to assume that high rent and high price of land are the result of scarcity and should be added to the 80 percent specificially reporting scarcity of desirable land as their most serious difficulty. The predominance of this difficulty holds true for all four areas but with considerable variations, from 71 to 100 percent. The small number reporting from the Western Meat Area makes the data obtained for it inadequate as a basis for comparison. There are no significant differences among the three other areas in the percentages reporting each difficulty.

The absence of collateral security accounts for about one-eighth of all the difficulties reported in obtaining farm land. This is perhaps more of a financial problem, but was reported specifically by 12 percent in connection with the problem of securing land.

The fact that the young farmers experienced difficulty because of lack of collateral security and of equipment suggests the desirability of leading our prospective young farmers, while still in high school, to accumulate capital in the form of money, stock and equipment. The long-time supervised farming program is held to be one practical means of doing this, although other legitimate methods may also be employed.

It is only fair to record that many teachers of vocational agriculture have attacked this problem of obtaining farm lands in a realistic manner, by conducting investigations of the farming opportunities for young men in their respective communities and

by organizing their instructions around the specific problems involved.

MANAGEMENT PROBLEMS

Only 29 percent of the farmers interviewed reported that they had encountered difficult problems in the field of management while becoming established in farming. It is probable that this relatively small number does not represent correctly the frequency and difficulty of the managerial problems encountered. Nearly every significant farm problem has managerial aspects, but because these last are not so tangible as are the more material or physical aspects of production, they are likely not to be identified and listed as specific management problems by practical farmers. The nature of the specific difficulties encountered, and the number and percentage reporting each, are summarized in table 9.

In recent years there has been a tendency for writers on agricultural matters to point out that changed economic conditions have resulted in making the farmers' problems more economic in character, and that, therefore, instruction in agriculture should shift its emphasis from production to the management and business side of agriculture. This suggestion is hardly borne out by the data obtained in this investigation, although the point should be made that relative frequency of mention of a problem is not an accurate index of its importance, nor of the difficulty of its solution, and consequently not of the relative amount of

TABLE 9. MAJOR DIFFICULTIES INVOLVED IN THE MANAGEMENT OF FARM ENTERPRISES.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Marketing (buying and selling)	8	10	8	40	0	0	5	12	21	17
Planning the crop rotations	8	10	2	10	1	20	9	22	20	16
Relationships with the hired man	14	18	1	5	0	0	5	12	20	16
Budgeting time	12	16	1	5	1	20	1	2	15	12
General management problems	7	9	1	5	2	40	3	7	13	10
Land utilization	1	1	3	15	0	0	9	22	13	10
Relations with the landlord	5	7	3	15	0	0	1	2	9	7
Making a profit	1	1	0	0	0	0	3	7	4	3
Breeding and mating animals	2	3	0	0	0	0	2	5	4	3
Feeding livestock	1	1	0	0	0	0	2	5	3	2
Partnership relations	3	4	0	0	0	0	0	0	3	2
Harvesting	1	1	0	0	1	20	0	0	2	2
Confining livestock	1	1	0	0	0	0	0	0	1	1
Buying feed	1	1	0	0	0	0	0	0	1	1
Being over-thrifty	1	1	0	0	0	0	0	0	1	1
Utilization of buildings	1	1	1	5	0	0	0	0	2	2
Total reporting management problems	76	31†	20	26	6	11	44	35	146	29
Total number reporting specific difficulty	68	27	20	26	5	9	40	32	133	25

*Percentage based upon number reporting specific difficulty.
†Percentage based upon total number interviewed.

TABLE 10. MAJOR DIFFICULTIES ENCOUNTERED IN OBTAINING FARM EQUIPMENT.

Major difficulties	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Lack of adequate finance	23	82*	14	82	0	0	34	94	71	87
Not enough for economic production	4	14	3	18	1	100	0	0	8	10
Poor quality	4	14	5	30	0	0	0	0	9	11
When to buy	1	4	0	0	0	0	0	0	1	1
High cost	0	0	0	0	0	0	1	3	1	1
Securing time to pay for	0	0	0	0	0	0	1	3	1	1
Total reporting equipment problems	40	16†	21	27	3	6	40	32	104	26
Specific difficulty	28	11†	17	22	1	2	36	29	82	16

*Percentage based upon number reporting specific difficulty.
†Percentage based upon total number interviewed.

time and emphasis it should receive in any program of instruction.

Problems in farm management seem to be rather numerous and quite varied in nature as might well be expected. Considerable variation exists among the different farming areas in the frequency of the problems reported, but the numbers reporting on this item are too small to make the differences significant. This variation does, however, suggest that instruction in farm management might well vary from one farming section to another in the amount of time and emphasis devoted to the different types of management problems and that an intensive investigation of the peculiar managerial problems currently being met by the farmers of the local community should be made.

OBTAINING EQUIPMENT

The lack of farming equipment has already been noted as a major difficulty encountered by a few farmers in their efforts to obtain land for farming. When questioned directly on the problem of obtaining adequate equipment, over 20 percent of the farmers interviewed reported major difficulties in obtaining adequate equipment. The nature of the specific difficulties reported is shown in table 10.

As might be expected, paying for the equipment needed for efficient farming was reported by the great majority as a major difficulty. Most of the other difficulties reported are also seen to be closely related to the first. Deciding when to buy equipment, reported by only one of the farmers, is perhaps the only type of difficulty listed which is not directly concerned with the lack of adequate financial resources.

The problem of selecting suitable equipment for meeting one's specific needs was not mentioned. One might be led to infer

TABLE 11. GENERAL MEANS EMPLOYED IN THE SOLUTION OF FINANCIAL PROBLEMS.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Borrowed from kin	18	19*	0	0	1	11	16	17	35	14
Borrowed (source not reported)	28	29	0	0	2	22	5	5	35	14
Security furnished by kin	13	14	10	18	0	0	7	7	30	12
Borrowed on own reputation	4	4	7	12	2	22	11	12	24	9
Income from farm	11	11	5	9	0	0	6	6	22	9
Gets along with difficulty	0	0	11	19	1	11	9	9	21	8
Borrowed from government	9	9	5	9	1	11	2	2	17	7
Earnings and savings	0	0	2	3	0	0	12	13	14	5
Borrowed from bank	6	6	0	0	0	0	7	7	13	5
Borrowed from friends	2	2	0	0	1	11	3	3	6	2
Miscellaneous	1	1	0	0	1	11	3	3	5	2
Limited investment	0	0	0	0	0	0	2	2	2	1
Inheritance	0	0	0	0	0	0	2	2	2	1
Problems not solved	4	4	17	30	0	0	11	12	32	12
Total reporting	96	39†	57	73	9	17	96	77	258	51

*Percentages based upon number reporting.
†Percentages based upon the total number interviewed.

either that the young farmers had already acquired the necessary abilities along this line or that the problems of paying for the equipment loomed so large as to overshadow the matter of selection.

WAYS AND MEANS OF SOLVING PROBLEMS

The farmers interviewed were asked to indicate the success that had attended their efforts to solve satisfactorily the problems reported, and the means they had employed in the process.

SOLVING FINANCIAL PROBLEMS

Responses were secured from over 50 percent on the solution of their financial problems. The methods employed in the solution of these problems and the number reporting the use of each method are represented in table 11.

The value to the young farmers of having generous and cooperative relatives is clearly demonstrated in table 11. Since relatives may also constitute a large proportion of "sources not reported," it may be safely assumed that as many as one-third of the farmers solved their financial problems in beginning farming directly through help given by their relatives. Those not having relatives capable and willing to give financial assistance were forced to use other means. Chief among these other means was the reputation of the individual farmer, which accounted for nearly 10 percent, and probably more, since this factor doubtless operated in several of the other methods listed. The ability

to borrow from friends, from the government or from mortgage companies probably is based as much on personal reputation as on any other factor. This fact might well be stressed in systematic instruction on becoming established in farming.

Under "miscellaneous" occurred the following: "security furnished by friend," "borrowed on life insurance policy," "earned as hired man," "a college loan," and "wife a good manager."

Considerable variation was shown among the four farming areas in the extent to which the various means were employed in solving financial problems encountered in becoming established in farming.

It is interesting to note that over two-thirds of those reporting had found it necessary to borrow money. The percentage of farmers borrowing varied from 38 percent in the Pasture Area to 85 percent in the Cash Grain Area. The need for systematic instruction on the available sources and sound methods of borrowing money is indicated by these findings.

HOW THE FINANCIAL CAPITAL WHICH THE FARMERS HAD WHEN THEY STARTED FARMING WAS OBTAINED

The several different sources and combinations of sources which were indicated in response to the question as to how the money, which they had when beginning to farm as an independent operator, had been obtained are presented in table 12.

Probably the most significant information presented in table 12 is that the majority of young farmers, approximately 80 percent, had saved from their own earnings their entire initial cash capital, and that only a small number (7 percent) had been the

TABLE 12. HOW MONEY IN POSSESSION AT BEGINNING OF FARMING WAS OBTAINED.

Sources	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Earnings from working for wages	95	52*	21	37	20	71	49	74	185	56
Income from own enterprises	31	17	10	18	1	4	3	4	45	14
Own savings	2	1	8	14	1	4	10	15	21	6
Borrowing	8	5	4	7	1	4	1	2	14	4
Inheritance	7	4	2	4	0	0	1	2	10	3
Gifts	7	4	0	0	0	0	0	0	7	2
Enterprises and wages	2	1	4	7	0	0	0	0	6	2
Miscellaneous	10	6	1	2	2	7	2	3	15	5
Had no money	21	12	6	11	3	10	0	0	30	9
Number reporting	183	74†	56	72	28	52	66	56	333	66
Number not reporting	65	26	22	28	26	48	58	44	171	34
Totals	248	100	78	100	54	100	124	100	504	100

*Percentages based on number reporting.
†Percentages based on number interviewed.

TABLE 13. AMOUNT OF CASH AT TIME OF BEGINNING TO FARM FOR SELF PLUS AMOUNT BORROWED DURING FIRST YEAR.

	Cash Grain	Pasture	Meat	Dairy	All
OWN CASH					
Number of individuals	160	52	26	66	304
Total amount	$135,346	18,260	7,180	35,140	195,926
Mean amount	$846	351	276	532	644
Range in amounts	20–10,000	25–1500	50–2000	50–2000	20–10,000
OWN CASH + BORROWING FIRST YEAR					
Number of cases	169	53	28	75	325
Total amount	$155,755	20,350	8,603	45,690	231,695
Average	$922	384	344	609	714
Mean amount borrowed first year	$76	33	68	77	70

recipient of gifts and inheritances. This proportion holds approximately for all areas. Of this 7 percent, almost 30 percent had supplemented the gifts and inheritances received with their own earnings. In the Northeast Dairy Area alone all the farmers reported having some initial cash capital, while in the other three areas the percentages without cash at the beginning of their farming experiences as operators were approximately equal, between 11 and 12 percent.

The amount of cash in the possession of the young farmers at the time of beginning farming on their own and the amount borrowed during the first year are reported in table 13.

Another striking fact presented in table 13 is the relatively small amount of cash capital which the average young farmer interviewed possessed when beginning to farm. Perhaps equally striking is the small amount borrowed during the first year. This indicates that the typical young farmer in our group did not undertake the independent operation of a farm until he had in hand almost all of the cash necessary to take care of the expenses of the first year.

SUBSEQUENT BORROWING BY FARMERS

More extensive borrowing was done in subsequent years, as is shown in table 14, which contains in addition other pertinent financial data.

It will be noted that over one-third of these young farmers had found it necessary to borrow money during the period that they had been farming, and that considerable variation exists among the different farming areas in this respect. Large differences among the areas also exist in the average amounts borrowed per year and in the average payments made on loans. Evidently farming operations in the Pasture Area do not require so much capital as in the other areas. The large range in the

TABLE 14. DATA CONCERNING THE BORROWING BY FARMERS INTERVIEWED.

Items	Cash Grain	Pasture	Meat	Dairy	All
Number of farmers who reported borrowing	113	25	16	27	181
Percentage of total number interviewed	45.5	32	29.6	21.8	35.8
Mean total borrowing per farmer (Dollars)	3,034	822	5,632	1,983	2,801
Mean amount borrowed each year (Dollars)	600	294	1,277	462	585
Range in amounts borrowed per year (Dollars)	25–10,000	46–860	29–4,000	50–1,500	25–10,000
Mean interest rate (Percent)	6.25	5.8	6.0	6.1	6.04
Range in interest rate paid (Percent)	4–8	2–6	4–7	2–8	2–8
Mean payments made per year (Dollars)	413	130	847	210	442
Range in payments made per year	25–6,250	8–500	18–3,000	10–1,363	8–6,250
Mean number of years farmed	5.1	4.2	4.6	4.3	4.8

amounts borrowed is also worthy of note. In most cases the larger amounts were borrowed to finance the purchase of feeder cattle. The wide range in interest rates suggests that probably certain farmers had obtained their loans from relatives at a low rate of interest. The number obtaining loans at interest rates as low as 2 percent was, however, small.

SOURCES OF BORROWING

The different sources from which the young farmers borrowed the money needed for buying their farms and for financing their various enterprises are presented in tables 15 and 16.

Inspection of table 15 reveals that 53 percent of the farmers reporting had obtained all or a part of the money which they had borrowed to buy their respective farms, from financial corporations; nearly one-third obtained all the needed money from private individuals; while the federal government supplied the total source for only 14 percent. This percentage seems rather small, but may be explained by the fact that only recently have

TABLE 15. SOURCES OF BORROWING FOR THE PURCHASE OF FARMS.

Sources	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Individuals	6	26*	3	30	3	75	3	25	15	31
Corporations only	9	39	1	10	1	25	9	75	20	41
Federal Government	2	9	5	50	0	0	0	0	7	14
Corporation and individual	4	18	1	10	0	0	0	0	5	10
Individual and Federal Government	1	4	0	0	0	0	0	0	1	2
Corporation and Government	1	4	0	0	0	0	0	0	1	2
Totals	23	100	10	100	4	100	12	100	49	100

*Percentages based on number reporting.

TABLE 16. SOURCES OF BORROWING FOR OPERATING FARM ENTERPRISES.

Sources	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Individuals	22	20*	2	8	0	0	10	37	34	19
Corporations	56	46	14	56	11	69	16	59	97	54
Individual corporation	20	18	2	8	0	0	0	0	22	12
Federal Government	5	5	7	28	2	12	0	0	14	8
Individual and Government	2	2	0	0	0	0	0	0	2	1
Local bank	1	1	0	0	0	0	0	0	1	1
Corporation and Government	1	1	0	0	3	19	0	0	4	2
Bank and individual	1	1	0	0	0	0	0	0	1	1
Sources not given	5	5	0	0	0	0	1	4	6	3
Totals	113	100	25	100	16	100	27	100	181	100

*Percentages based on number reporting borrowings.

Federal Government loans been available to individual farmers for the purchase of farms.

As a source of borrowing for financing farm enterprises, corporations assumed an even more prominent position for the farmers interviewed than they did as a source for money to finance the purchase of farms. Evidently young farmers since 1930 must have looked mainly to the large financial corporation as sources for capital both for the purchase of farms and for the carrying on of their farm enterprises and operations. Private individuals constitute the next largest source.

SOLVING THE PROBLEM OF OBTAINING LAND

The extremely difficult nature of the problem of securing good farm land on which to begin farming, except for those who inherited or rented land from their relatives, has already been emphasized. The ways and means of securing land employed by the farmers reporting on this problem are listed in table 17.

Table 17 emphasizes again the important part which the relatives of the young farmer play in his establishment in farming. Forty percent obtained land for farming from relatives either by direct inheritance or by renting it from them. Friends and good connections with landlord might be lumped together to form another 10 percent. Under miscellaneous are included the following: "moved to better farm," "had good security," "had machinery," and "paid high rent."

In interpreting the fact that only 11 percent reported lack of success in obtaining good land for farming, it must be kept in mind that the farmers interviewed were farming at the time, and therefore constituted the ones who had succeeded, at least to

TABLE 17. MEANS EMPLOYED IN OBTAINING GOOD LAND FOR FARMING.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Through relatives	18	26	17	53	1	17	44	48	80	40
Through own efforts	24	34	6	19	4	67	23	25	57	29
Through friends	8	11	0	0	0	0	9	10	17	9
Good connection with landlord	0	0	0	0	0	0	4	4	4	2
Obtained loan	3	4	0	0	0	0	0	0	3	2
Was first applicant	3	4	0	0	0	0	0	0	3	2
Share crop basis	1	1	1	3	0	0	0	0	2	1
Bought land	1	1	0	0	0	0	1	1	2	1
Miscellaneous	2	2	1	3	1	17	6	6	10	5
Not successful	10	14	7	22	0	0	5	5	22	11
Total reporting means	70	28†	32	41	6	11	92	74	200	40

*Percentages based upon number reporting means.
†Percentages based upon the number interviewed.

some extent, in obtaining land of a sort. The 11 percent who reported non-success must be dissatisfied with the quality or the amount of the land they had been able to obtain, since our investigation was confined to those who were farming at the time.

HOW FARMS WERE ACQUIRED

The manner in which the farms, at present being occupied by the farmers interviewed, were acquired is of significance in this investigation.

It will be noted that 78 percent of the young farmers first acquired the farms that they are occupying at present by renting them. Only 8 percent had been purchased outright when first occupied. The other types of tenure reported represent various degrees of ownership and responsibility, and taken together account for only a small percentage of the total number.

TABLE 18. MANNER IN WHICH FARMS AT PRESENT OCCUPIED WERE FIRST ACQUIRED.

	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Rented	196	80	63	81	38	70	94	76	391	78
Purchased	16	6	10	13	5	9	11	9	41	8
Partnership	18	7	0	0	0	0	5	4	23	5
Operating	3	1	1	1	1	2	12	10	17	3
Part owner	6	2	3	4	1	2	0	0	10	2
Inherited	4	2	0	0	2	4	2	2	8	2
Share in estate	0	0	1	1	5	9	0	0	6	1
Family share	4	2	0	0	0	0	0	0	4	1
Worked for	0	0	0	0	1	2	0	0	1	0
Rented and bought	1	0	0	0	1	2	0	0	2	0

TABLE 19. MEANS EMPLOYED IN OBTAINING GOOD LIVESTOCK.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Purchased at sales, stock yards, etc.	39	45*	5	10	2	29	22	24	68	29
Bred and raised own stock	6	7	32	60	0	0	25	28	63	25
Gradual increase	23	27	0	0	3	43	12	13	38	16
From relatives	5	6	3	6	0	0	16	18	24	10
Culled herd	0	0	0	0	1	14	1	1	2	1
Advertised for	2	2	0	0	0	0	0	0	2	1
Through cooperative	1	1	0	0	0	0	0	0	1	0
Changed breed	0	0	0	0	0	0	1	1	1	0
Miscellaneous	2	2	0	0	1	14	0	0	3	1
No success	8	9	12	23	0	0	14	15	34	14
Total reporting	86	35†	52	67	7	13	91	76	236	47

*Percentages based upon number reporting on item.
†Percentages based upon number interviewed.

SOLVING PROBLEMS OF OBTAINING LIVESTOCK

The problem of obtaining the livestock essential to establishment in farming ranked fourth in the general order of difficulty of solution with 17 percent reporting failure. However, over 30 percent rated it first and second in difficulty.

Breeding and raising of own animals accounted for at least 25 percent of the means employed for obtaining the necessary livestock. Doubtless many of the cases reported under "gradual increase" also involved breeding own stock. Less than 1 percent, however, reported raising purebred stock as a means of obtaining good livestock, and only 6 percent reported the use of purebred sires for the same purpose. Culling of their herds was reported by only two farmers, while only one cooperated with his neighbors in obtaining livestock.

The small number reporting the use of the recommended methods of obtaining and improving livestock referred to above suggests that emphasis upon these should be a feature of any systematic instruction in agriculture designed for practical farmers.

The fact that 14 percent of those reporting on the problems involved in obtaining good livestock had failed completely in solving them, also indicates that considerable instruction along this line is needed.

SOLVING PRODUCTION PROBLEM

It already has been noted that problems of production encountered by our young farmers were both numerous and difficult. The means adopted in the solution of production problems by as many as 2 percent of the farmers reporting and the num-

TABLE 20. MEANS EMPLOYED IN SOLVING PRODUCTION PROBLEMS.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sanitation practices	21	22*	4	9	4	21	12	11	41	16
Vaccination of hogs	13	14	2	4	3	16	9	9	27	10
Cleaned up diseases	9	10	3	7	0	0	2	2	14	5
Seeded legumes	6	6	2	4	0	0	5	5	13	5
Rotated crops	3	3	0	0	1	5	6	6	10	4
Used fertilizers	1	1	0	0	1	5	7	7	9	3
Miscellaneous	0	0	0	0	0	0	9	9	9	3
Bought clean stock	1	1	2	4	0	0	5	5	8	3
Better feeding	2	2	0	0	1	5	3	3	6	2
Tiled land	0	0	0	0	0	0	4	4	4	2
Bonded enterprise	2	2	2	4	0	0	0	0	4	2
No success	22	23	26	57	8	42	30	29	86	32
Partial success	4	4	4	9	0	0	5	5	13	5
Total reporting	95	38†	46	59	19	35	105	85	265	53

*Percentages based upon number reporting solving production problems.
†Percentages based upon total number interviewed.

ber using each of the means listed are summarized in table 20.

In addition to those listed in table 20 the following means were reported by 1 percent or less of the farmers: selected better breeding stock, joined cow testing associations, limed soils, culled flocks, got another farm, eradicated weeds, wormed sheep, changed type of farming, bought tractor, and adult advice.

The wide prevalence of animal diseases has previously been mentioned (see table 5). It is not surprising, therefore, that methods of controlling and preventing common animal diseases are reported as the means most often employed in solving production problems. In some sections, notably the Cash Grain, methods for the control of animal diseases constitute at least 50 percent of the total number reported. The wide prevalence of animal diseases coupled with the large percentage (32) reporting failure to deal successfully with them would seem to indicate the need for more emphasis being placed upon such problems in the instructional program in vocational agriculture.

SOLVING EQUIPMENT PROBLEMS

Problems involved in obtaining the necessary equipment for establishment in farming for one's self were rated lowest in difficulty by the whole group interviewed, although 38 percent of the farmers interviewed admitted experiencing some difficulty in this connection. Moreover, approximately 37 percent of those reporting specific difficulties, rated equipment problems first, second and third in degree of difficulty among the seven problem categories employed. Nineteen farmers, approximately 10 per-

TABLE 21. MEANS EMPLOYED IN OBTAINING EQUIPMENT FOR FARMING.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Used relatives	16	34*	31	62	1	25	50	54	98	51
Bought gradually	8	17	5	10	0	0	4	4	17	9
Borrowed money and bought	1	2	1	2	0	0	11	12	13	7
Used old machinery	1	2	0	0	0	0	7	8	8	4
Bought new machinery	2	4	5	10	0	0	1	1	8	4
Borrowed and bought	0	0	0	0	0	0	6	7	6	3
Used friend's equipment	2	4	2	4	0	0	1	1	5	3
Traded work for use of equipment	0	0	1	2	0	0	3	3	4	2
Bought used machinery	0	0	0	0	0	0	4	4	4	2
Bought on finance plan	2	4	0	0	0	0	2	2	4	2
Miscellaneous	2	4	2	4	1	25	0	0	5	3
Share of tractor	1	2	0	0	0	0	0	0	1	1
Borrowed and repaired	0	0	0	0	0	0	1	1	1	1
Bought new and second-hand	0	0	0	0	0	0	1	1	1	1
No success	12	26	3	6	2	50	2	2	19	10
Total reporting	47	17†	50	64	4	7	93	75	194	38

*Percentages based upon number of means reported.
†Percentages based upon number interviewed.

cent, reported that they had been so far unsuccessful in obtaining sufficient good equipment, while three reported only partial success. The various means employed are shown in table 21.

Here again the assistances given by parents and other relatives to young farmers in their attempt to establish themselves as independent operators is well demonstrated. Over one-half of those reporting problems in securing adequate equipment solved them by using the equipment of their relatives. The several other means reported are not new, by any means. Most of them demand considerable ability in the selection, adjustment and repair of the various pieces of farm equipment used, and the development of these abilities should be among the objectives of agricultural instruction. The good attendance in adult evening and part-time classes in farm shop indicates a need for such instruction. Some teachers of vocational agriculture have started their students on the solution of their equipment problems while in high school by encouraging them to buy used machinery and by teaching them to repair it at school. In this way prospective farmers may accumulate serviceable items of mechanical equipment at a low money cost. Incidentally, a great deal of useful ability involved in the selection of, operation, and repair of farm equipment can be taught in this way.

SOLUTION OF HOUSING PROBLEMS

Problems met in housing family and farm animals were ranked third in difficulty. Also a greater percentage reported encountering difficulties in this area than in any other, and a smaller

TABLE 22. MEANS EMPLOYED IN SOLVING HOUSING PROBLEMS.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
New buildings	29	23*	4	8	1	4	12	15	46	17
Plan to build	22	18	4	8	5	22	6	8	37	13
Repair annually	6	5	0	0	1	4	15	19	22	8
Use parents' buildings	5	4	0	0	0	0	1	1	6	2
Plan to improve	2	2	0	0	0	0	2	3	4	1
Changed farms	3	2	0	0	0	0	3	4	6	2
Remodeled	1	1	0	0	0	0	3	4	4	1
Adjusted enterprises	3	2	2	4	0	0	0	0	5	2
Made needed improvements	0	0	0	0	1	4	2	3	3	1
Painted buildings	2	2	0	0	0	0	0	0	2	1
Rebuilding at present	0	0	2	4	0	0	0	0	2	1
Miscellaneous	0	0	2	4	0	0	0	0	2	1
Rearranged buildings	0	0	0	0	0	0	1	1	1	0
No success	51	41	37	72	15	65	34	43	137	49
Total reporting	124	50†	51	65	23	43	79	64	277	55

*Percentage based upon number reporting.
†Percentage based upon number interviewed.

percentage were successful in overcoming them. The means of solving housing problems and the percentage of farmers reporting them are shown in table 22.

For reasons obvious to those who are well informed about current conditions regarding land tenancy and ownership, the solution of housing problems presents certain difficulties of a type not present in the other problem areas investigated. The large proportion, almost 50 percent, who report failure in solving their housing problems, is an indication of the stubborn nature of the difficulties encountered. It also will be noted that several of the means given for the solution of the problems are not intended to improve greatly the general housing conditions, but merely to pass them along to someone else, or to render present conditions just a trifle more tolerable. Other means reported as "planned" must be regarded as imaginary rather than actually existing.

Anyone well acquainted with housing conditions of the average Iowa farms, and more particularly with those on rented farms, does not need to be told that a tremendous amount of repair work and new construction needs most urgently to be done.

Of the four different farming sections the Cash Grain and the North East Dairy seem to be making greater progress than the other two sections in solving their housing problems.

Doubtless, some instruction in the planning, construction and repair of farm buildings should continue to be included in the curriculum in vocational agriculture, although tangible outcomes of such instruction on a large scale may not be immediately forthcoming because of the extent and nature of the tenancy

system which prevails in Iowa. The ability to recognize and identify housing problems, to evaluate housing conditions and to perform reasonably well some of the more common technical skills involved in the improvement of housing conditions on the farm should be emphasized.

SOLVING MANAGEMENT PROBLEMS

The problems classified under management were rated as sixth in difficulty among the seven types considered (table 3). Only 27 percent of the farmers interviewed reported having experienced difficulty in solving management problems. Twenty-nine percent of those reporting specific problems in this area ranked them first and second in difficulty, while 24 percent placed them last. While only 39 (32 percent) of those reporting confessed to failure in solving their problems of management, the investigator is led to suspect that probably the classification of "management" may not have been very meaningful to many of the interviewees, and that consequently they failed to list under this heading all the management problems they had encountered.

The means employed by the farmers in solving their management problems are reported in table 23.

It is probable that several of the means listed in table 23 could be combined. "Own experience," "increased knowledge," and "study and planned" have the same general meaning. Experi-

TABLE 23. MEANS EMPLOYED IN SOLVING MANAGEMENT PROBLEMS.

Means	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Own experience	8	13*	3	15	1	17	2	6	15	12
Dad's advice	5	8	1	5	0	0	6	17	12	10
Increased knowledge	6	10	1	5	0	0	5	14	12	10
Better hired help	7	11	0	0	0	0	1	3	8	6
Better crop rotation	4	7	0	0	1	17	1	3	6	5
Studied and planned	5	8	0	0	0	0	0	0	5	4
Worked them out	1	2	1	5	0	0	2	5	4	3
Learned from adults	4	7	0	0	0	0	0	0	4	3
Miscellaneous	1	2	2	10	0	0	1	3	4	3
Budgeted time	2	3	0	0	0	0	0	0	2	2
Used legumes	1	2	0	0	0	0	1	3	2	2
Moved to another farm	0	0	0	0	0	0	2	5	2	2
Tested soils	0	0	0	0	0	0	2	5	2	2
Kept records	1	2	0	0	0	0	0	0	1	1
Stayed home more	1	2	0	0	0	0	0	0	1	1
Rearranged buildings	1	2	0	0	0	0	0	0	1	1
Attended voc. agr. classes	0	0	0	0	0	0	1	3	1	1
Contour farming	0	0	1	5	0	0	0	0	1	1
Seeded more land	0	0	0	0	0	0	1	3	1	1
Used silage	1	2	0	0	0	0	0	0	1	1
No success	13	21	11	55	4	67	11	30	39	32
Total reporting	61	25†	20	26	6	11	36	28	123	24

*Percentages based on number reporting.
†Percentages based on number interviewed.

TABLE 24. SIZE AND VALUE OF FARM CURRENTLY OCCUPIED BY YOUNG FARMERS.

Items	Cash Grain	Pasture	Meat	Dairy	All
Mean gross acres	171.7	150.1	145.6	146.6	159.3
Range in acres	60–500	40–520	40–560	16–500	
Mean tillable acres	157.9	105.3	127.0	120.9	137.4
Percent non-tillable	8.0	30.0	12.8	17.5	13.8
Value per acre (dollars)	122.0	52.0	93.0	75.0	99.0
Range in value (dollars)	35–600	20–135	35–160	20–160	20–160
Mean years on present farm	3.41	3.01	2.72	2.62	3.08
Range in years	1–11	1–8	1–11	1–8	1–11

ence has long been recognized as an effective teacher, albeit a rather expensive one. It is interesting to note that recommended practices in farm management, such as budgeting time, soil testing, keeping records, and even the improved rotation of crops, are given as means of solving their management problems only by small percentages of the farmers reporting. It is also worthy of note that almost one-third of the farmers reporting management problems had so far failed to solve them. Thirteen percent had solved their management problems through the advice given by fathers and other adults.

The writer believes that the large percentage reporting failure in solving management problems, coupled with the small percentages reporting that they employed recommended practices as a means of solving their problems in this area, indicates a need for more and improved instruction in the field of farm management.

PROGRESS IN SOLVING PROBLEMS

The current occupational status of the young farmers interviewed, the degree of success achieved in improving their farming status, the rate of progress made in establishment in farming, the improvements made upon the farms they operate and the improved practices regularly carried on by them are among the topics presented in this section. Considerable difficulty was experienced in obtaining much of the information, because of the personal character of the data sought and the lack of accurate farm records.

SIZE AND VALUE OF FARMS CURRENTLY OCCUPIED

The mean acreage of the farms at present occupied by these young farmers is almost identical with the state average. The relatively small proportion of non-tillable land is about as one would expect in Iowa. The rather large obtained differences

TABLE 25. TENURE STATUS ON FARMS AT PRESENT OCCUPIED.

Tenure status	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Tenant	187	75	57	73	39	72	89	72	372	74
Owner	39	16	15	19	11	20	17	14	82	16
Operator (hired)	3	1	2	3	0	0	11	9	16	3
Partner	10	4	1	1	0	0	2	1	13	3
Family share	3	1	1	1	0	0	5	4	9	2
Part owner	0	0	0	0	2	4	0	0	2	0
Estate	4	2	2	3	2	4	0	0	8	2
Tenant and owner	1	0	0	0	0	0	0	0	1	0
Tenant and partner	1	0	0	0	0	0	0	0	1	0
Totals	248	100	78	100	54	100	124	100	504	100

among the different areas in this respect are also readily accounted for. As might also be expected, the value per acre varies with the percentage of non-tillable acres, although doubtless other factors also influence the value of the land.

The wide range of land values in all the areas is perhaps greater than might be expected. Evidently there are both unproductive and productive farms in all major farming areas of Iowa. The mean number of years spent on the present farm is greater than the mean number spent on each of the rented farms at first occupied (table 29). The inclusion of the owner-operated farms in this average would in part account for this difference.

TENURE STATUS ON PRESENT FARM

The tenure under which these 504 young farmers are holding the farms they are currently occupying is described in table 25.

As might be expected in the case of beginning farmers, a larger percentage are tenants than is found among Iowa farmers generally. Approximately 50 percent of the farms in Iowa are operated by renters, while 74 percent of the young farmers interviewed are farming as tenants. Because of the types of farming practiced, one might expect to find a greater variation than does exist among the different farming sections in the percentages farming as renters. In all, only 16 percent of the farmers were farming as full owners. The remaining 10 percent held their land under the other types of tenures listed in table 25. There were no significant differences among the four areas on this point.

RELATIONSHIP OF NON-OWNER OPERATORS TO OWNERS OF THEIR FARMS

The relationship of the non-owner farmers to the owners of the farms they are now operating is shown in table 26.

The large part which consanguinity plays in the obtaining of

TABLE 26. RELATIONSHIP OF NON-OWNER FARMERS TO OWNERS OF THE FARMS THEY OPERATE.

Relationship to owner	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	107	51	42	66	26	60	64	60	239	58
Son	77	36	10	16	12	28	32	30	131	31
Nephew	11	5	6	9	2	5	2	2	21	5
Son-in-law	4	2	2	3	1	2	5	4	12	3
Grandson	5	2	1	2	0	0	2	2	8	2
Brother	1	1	1	2	0	0	2	2	4	1
Estate	0	0	0	0	2	5	0	0	2	0
Grand-nephew	2	1	0	0	0	0	0	0	2	0
Brother-in-law	1	1	1	2	0	0	0	0	2	0
Cousin	1	1	0	0	0	0	0	0	1	0
Totals	209	100	63	100	43	100	107	100	422	100

even rented farms shows up plainly in table 26. Forty-two percent of all farms not owned by the farmers operating them are owned by the relatives of the latter. It may also be noted that a rather high correlation exists between the closeness of the relationship and the number of farms involved.

CHANGES IN FARMING STATUS

Twenty-six percent had achieved a change in status on the farms at present occupied. Eighty percent of those making a change upward in farming status had moved from "family member" to some higher status on the same farm, indicating again the influence of consanguinity. Six percent had been successful in changing their status to that of owner. Only 2 percent had changed from tenant to owner. Two individuals had risen directly from hired man to operator, two from hired man to owner, and one from hired man to tenant. All changes in status reported were in what would be generally regarded as upward on the "agricultural ladder." Only three individuals had made two changes in status on the same farm.

IMPROVEMENTS MADE UPON THE LAND

The improvements made on land by the farmers reporting are listed in table 27.

It should be noted that 68 percent of the farmers interviewed failed to report on the improvements they had made on the land they were farming. It would appear safe to conclude that they had not made any. One-fifth of those reporting admitted having done nothing. These last added to the 68 percent failing to report constitute 75 percent of our sample. It might also be strongly suspected that not enough is being done to maintain, much less to increase, the fertility of those farms for which soil-improvement practices are reported. The average of one soil-improvement practice per farm, unless it were widely adapted

TABLE 27. IMPROVEMENTS MADE UPON THE LAND BY YOUNG FARMERS INTERVIEWED.

Improvements	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Number reporting	24	50*	20	26	9	17	11	9	164	32
Manuring	23	19†	14	70	2	22	1	9	40	24
None	28	23	0	0	3	33	4	36	35	21
Crop rotation	20	16	8	40	1	11	3	27	32	20
Seeding	16	13	10	50	3	33	0	0	29	18
General and miscellaneous	25	20	0	0	1	11	0	0	27	16
Seeding legumes	15	12	4	20	1	11	1	9	21	13
Liming	3	2	6	30	1	11	2	18	12	7
Keeping livestock	8	7	1	5	1	11	0	0	10	6
Green manure	4	3	0	0	0	0	0	0	4	2
Pasturing	4	3	0	0	0	0	0	0	4	2
Tiling	3	2	0	0	0	0	0	0	3	2
Erosion control	2	2	0	0	0	0	0	0	2	1
Weed eradication	2	2	0	0	0	0	0	0	2	1
Commercial fertilizer	1	1	0	0	0	0	0	0	1	1
Total number improvements	126	100	43	100	10	100	8	100	187	100
Mean number improvements per farm	1.0		2.2		1.1		0.7		1.1	

*Percentages based upon total number of farmers interviewed.
†Percentages based upon number of improvements reported.

over the whole farm, could hardly be sufficient to compensate for the losses due to cropping, erosion, etc. Particularly surprising, perhaps, is the fact that only 2 farmers of the 504 are doing anything to control erosion of their land. A close study of this table leads one to conclude that a great deal yet needs to be done in persuading our Iowa farmers to adopt standard,

TABLE 23. IMPROVEMENTS ON LAND BY OWNERS AND BY TENANTS.

Improvements	All areas			
	Owners		Tenants	
	No.	%	No.	%
Number reporting	35	42.7*	130	30.8
None	5	14.3†	30	23.1
Rotation	13	37.3	19	14.6
Manuring	8	22.8	32	24.6
Seeding	7	20.0	22	16.9
Legumes	5	14.3	16	12.6
General	4	11.4	18	13.8
Liming	4	11.4	8	6.2
Livestock	1	2.9	9	6.9
Good practices	3	8.6	7	5.4
Green manure	1	2.9	3	2.3
Pasture improved	0	0.0	4	3.1
Tiling	0	0.0	3	2.3
Weed control	0	0.0	2	1.5
Erosion control	1	2.9	1	0.8
Commercial fertilizer	1	2.9	0	0.0
Mean number per farm	1.37		1.1	
Total improvements	48		139	

*Percentages based upon total number interviewed.
†Percentages based upon number reporting.

approved soil-building and soil-conservation practices, and suggests increased emphasis upon the latter in programs of agricultural education.

In order to ascertain the bearing of ownership and tenancy on this question, the soil improvement practices of owners and tenants were tabulated separately in table 28.

While the differences between the owners and non-owners in the percentages of improved soil-building practices carried out are generally in favor of the owners, they are probably not so great as one would expect. However, in those practices having most to do with permanent soil improvements, i.e., crop rotation, seeding, raising legumes, liming and erosion control, the owners are found to be appreciably more active than the tenants. Also there is considerable difference between the two groups in the number reporting no soil improvement practices, 14.3 percent for owners and 23.1 percent for the non-owners. This difference, however, is not statistically significant.

IMPROVEMENTS MADE ON FARMSTEAD

The farmers were asked what improvements they had been able to make on the farmsteads they were occupying. A summary of the improvements reported is presented in table 29.

The percentage (41) who did not or could not report making any improvements in the farmsteads they occupied, and whose activities in this direction, therefore, are not included in table 29, seems rather large, and might be taken to indicate that no improvements of consequence had been made by them. The comparatively large number of new buildings is hardly what might

TABLE 29. IMPROVEMENTS MADE ON FARMSTEAD DURING OCCUPATION.

Nature of improvements	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
General repair	56	30*	8	53	3	27	61	73	128	44
New buildings	68	37	3	20	4	36	18	21	93	31
No improvements	35	19	0	0	0	0	0	0	35	12
Fencing	21	12	4	27	0	0	0	0	25	9
Building repair	8	4	1	7	6	55	1	1	16	5
Painting	11	6	1	7	2	18	0	0	14	5
Remodeling	11	6	0	0	0	0	3	4	14	5
Plumbing	6	3	0	0	0	0	0	0	6	2
Electricity	6	3	0	0	0	0	0	0	6	2
Concrete floors	4	2	0	0	0	0	0	0	4	1
Foundations	3	2	0	0	0	0	0	0	3	1
Water tanks	0	0	1	7	0	0	0	0	1	0
Shingling	0	0	0	0	1	9	0	0	1	0
Not reporting	62	25†	63	93	43	80	40	32	208	41

*Percentages based on the number reporting.
†Percentages based on the total number interviewed.

TABLE 30. IMPROVEMENTS MADE BY OWNERS AND NON-OWNERS ON THE FARMSTEADS.

Improvements	All areas			
	Owner		Tenant	
	No.	%	No.	%
General repair	12	23.1	65	38.2
New buildings	32	61.5	42	24.7
Fencing	2	3.8	23	13.5
Repair buildings	1	1.9	15	8.8
Painting	1	1.9	13	7.6
Remodeling	5	9.6	9	5.3
Plumbing	2	3.8	4	2.4
Electricity	4	7.7	2	1.2
Concrete floor	1	1.9	4	2.4
New foundation	0	0.0	3	1.8
Silo	3	5.8	0	0.0
Shingling	0	0.0	1	0.6
Cistern	1	1.9	0	0.0
Well	1	1.9	0	0.0
Water tank	1	1.9	0	0.0
None	1	1.9	40	23.5
Total number reported	66	100	181	100
Number of farmers reporting	5.2		17.0	
Number improvements per farm	1.2		1.1	

be expected although we have no information on their size or importance. Evidently, however, not much progress is being made in the modernization of the homes by the installation of electricity and water.

A further analysis of the data on this point reveals that by far most of the improvements reported were made on farms operated by owners. Also, a few of the latter had made more than one improvement.

While only 12 percent of those reporting confessed to having made no improvements, the large proportion (41 percent) not reporting at all on the question leads one to suspect that many, if not most, of this latter group should properly be included among those not making improvements.

Since these improvements reported cover a period averaging about 4 years in duration, it would hardly appear that improvements were being made rapidly enough to prevent the farmsteads from deteriorating. Considerable differences are to be observed among the farming areas in the types of improvements made.

In the attempt to ascertain the effect of ownership on the improvement of the farmstead, the data in table 29 are rearranged on the basis of tenure in table 30.

In the construction of new buildings, in remodeling and in the installation of plumbing and electricity, greater activity seems to be taking place on the farms which are being operated by owners, while more fencing and painting are being done on

tenant-operated farms. The larger amount of general repair work reported on tenant farms probably indicates the reluctance of landlords to build new buildings and the effort to make the old ones suffice by repairing them. The construction of new buildings is the only item in table 30 in which the difference between owners and tenants is statistically significant.

PRODUCTION OF CROPS AND ANIMALS

The attempt was made to ascertain the general farming efficiency of the farmers interviewed by obtaining from each, data concerning the production of certain crops and animals. These data for each of the several years farmed and for all the farmers interviewed could not be obtained in detail because of the inadequacy of the records kept by the farmers.

The interviewer had to content himself with the estimates given him, which were rough averages covering the years the farmers had been farming as independent operators. The information obtained serves to reveal the general nature of the farming practiced rather than the efficiency of the farmers. Wide ranges on crop yields were reported in all the areas. Mean crop yields of 47 bushels per acre were reported for corn and 40 bushels for oats. While practically all the farmers raised corn, oats and legumes, only 17.5 percent limed their soils. The differences between the different areas in the mean crop yields are considerable, as would be expected. Wide ranges existed in all areas in the number of sows farrowed and in the number of pigs per litter.

In the matter of farm power, it is interesting to note that most farmers reporting used both tractors and horses. About 10 percent got along without horses, while 23 percent did not own tractors, and 67 percent used both.

IMPROVED FARM PRACTICES

The improved farm practices which the young farmers reported as being regularly carried on by them are presented in table 31. The practices are arranged in the descending order of frequency as reported by the total group of farmers.

We have no information as to how effectively or extensively these practices were carried out on the farms reporting their use. It would seem likely that there is some overlapping between "soil-conservation" practices and "cooperation with the AAA." It is to be inferred that some farmers are practicing soil conservation on their own initiative without encouragement or compensation from the Federal Government subsidies. Although considerable encouragement may be derived by workers in agri-

TABLE 31. NUMBER AND PERCENTAGE OF FARMERS EMPLOYING IMPROVED FARM PRACTICES REGULARLY.

Improved practices	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Soil conservation	216	87*	67	86	48	89	93	75	424	84
Use of purebred sires	191	77	55	71	41	76	87	70	374	74
Vaccination of hogs	205	83	42	54	40	74	65	52	352	70
Feeding protein supplement	188	76	40	51	31	57	82	66	341	68
Feeding minerals	175	71	41	53	28	52	86	69	330	66
Cooperation with AAA	151	61	58	74	30	56	53	43	292	60
Keeping farm accounts	121	49	23	30	19	35	36	29	199	39
Keeping production records	102	41	19	24	14	26	30	24	165	33
Worming hogs	97	39	18	33	15	28	26	25	156	31
Use of McLean system	80	32	17	22	16	30	25	20	138	27
Modernizing buildings	68	27	6	8	17	32	23	18	114	23
Liming soil	17	7	12	15	1	1	19	15	49	10
Spraying trees	18	7	6	8	6	11	5	4	35	7

*Percentages based upon total number of farmers interviewed.

cultural education from the large percentages practicing certain improved practices, there are other important practices, such as worming hogs, use of McLean system and liming soil, which one would perhaps expect larger numbers to be using regularly.

The number of improved practices in regular use per farm varied from none, reported by 10 farmers, to 12 by 3 farmers. The average number of practices reported by all the farmers was six with small variation among the different farming areas.

PROGRESS IN FARMING

In response to the question whether or not their progress in farming had been satisfactory, 87 percent replied in the affirmative, 10 percent reported in the negative, 2 percent admitted only fair success, while an equal number (2 percent) failed to report. Evidently farming has not been a very disappointing occupation during the past 10 years.

The satisfactory nature of the experience of these young farmers is also shown in their response to the question, "If renting do you plan to become owner?" Approximately 96 percent of the tenants plan to become owners. Moreover, they are rather optimistic regarding the time which will elapse before they become owners, since 43 percent of those giving an estimate placed it within 5 years; another 40 percent expected to achieve ownership within 10 years; 16 percent in 15 years; and only 1 percent believed it may take them as much as 20 years to become owners. One probably can assume that all the farmers were not using the same standard for ownership. Some may have regarded the acquiring of the title of the farm, while still deeply

TABLE 32. RANKING OF FACTORS AS TO THEIR CONTRIBUTION TO SUCCESS IN ESTABLISHMENT IN FARMING.

Factors contributing to success	Percentage placing each factor in						
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7
Experience on home farm	70	17	7	2	2	1	1
Financial assistance from relatives	11	36	18	11	11	10	3
Advice of parents and others	6	21	33	16	14	8	2
General education	1	11	22	32	25	8	1
Education in agriculture	5	11	14	16	15	21	18
Work as farm hand	14	11	6	12	12	18	27
Own independent reading and study	3	5	8	19	28	31	6

in debt for it, as constituting ownership, while others may have had in mind complete and unencumbered ownership.

Another measure of progress in farming was found in the responses to the question, "Has farming proved more or less profitable than expected?" One hundred and fifty-one, or 30 percent, of those reporting had found greater profit than expected; 108, or 21 percent, reported less profit than expected; while 205, or nearly 41 percent, had found it about as profitable as expected. Forty farmers or about 8 percent of the total, did not report on this question. Some rather large differences are to be noted among the different areas on this point.

THE RELATIVE VALUE OF THE FACTORS CONTRIBUTING TO SUCCESS IN BECOMING ESTABLISHED IN FARMING

The opinions of the young farmers concerning the relative value of the contribution made by certain factors toward establishment in farming are summarized in table 32.

It is interesting to note that experience on the home farm is the outstanding first choice in the list, with 70 percent giving it first place. Financial assistance from relatives would seem to have been regarded somewhat more highly than their advice. Work as hired hand and "own independent reading and study" compete for the bottom position.

It is probable that the influence of general education has been underrated, since it is extremely difficult for one possessing some ability in the "three R's" to appreciate how greatly handicapped he would be if he were not able to read and write and "figure." Workers in education in vocational agriculture perhaps will find it difficult to derive much comfort from the low position given to agricultural education, but it should be borne in mind that only 157 of the 504 young farmers had studied vocational agriculture while in high school, many of them in

TABLE 33. PERCENTAGES OF FARMERS WHO ATTENDED SCHOOLS OF DIFFERENT TYPES.

Types of schools	Cash Grain	Pasture	West. Meat	N. E. Dairy	All areas
One room rural + independent district	33	37	44	33	35
One room rural (only)	17	32	13	24	21
Consolidated (only)	10	9	11	11	10
One room rural + consolidated	10	5	6	11	9
Independent town (only)	8	9	6	10	8
One room rural + independent + college	7	3	7	2	5
Parochial (only)	2	0	6	0	2
Consolidated + college	3	1	0	2	2
Independent + college	3	0	0	1	2
One room rural+independent+consolidated	1	0	1	1	1
One-room rural + consolidated + college	2	0	0	2	1
Consolidated + independent	0	3	0	2	1
Independent + parochial	1	0	0	1	1
One-room rural + college	1	1	0	0	1
One-room rural+independent+consolidated + college	1	0	0	0	1

the early days of the program when it was admittedly rather weak, and that the instruction in agriculture which the others had received in high school had been limited to what has been offered in Iowa schools for many years under the term "general agriculture."

The fact that so few have found their own independent reading and study of much assistance should give some food for thought to workers in education. Surely all would agree that one of the major purposes of education should be to develop in young people not only the desire but also the ability to keep on studying independently after they leave school. Apparently either the desire or the ability to study independently, or both, does not function greatly in the cases of the young farmers interviewed.

FORMAL EDUCATIONAL EXPERIENCES

The extent and nature of the formal educational experiences, or schooling, of the 504 young farmers interviewed are described in this section, along with their own subjective evaluation of them. Because of the limited space available only a minimum amount of detail and interpretation can be given of the numerous data obtained.

TYPES OF SCHOOLS ATTENDED

The various types of schools and combinations of the same attended by these young farmers are shown in table 33. Only those reported by as many as 1 percent of the farmers in any area are included.

With reference to the percentage (12) reporting college attendance it should be pointed out that the term "college" as used in table 33 includes several business colleges, trade schools and other educational institutions of post-high school rank.

EDUCATIONAL STATUS

The mean level of formal education attained by the farmers interviewed, expressed in terms of school grades completed, was exactly 11.0; and varied from 10.2 grades in the Pasture area to 11.4 grades in the Western Meat area. The range in number of years of schooling completed was from 4 to 18. The mean age at time of leaving school was 17.3 years, with a range from 11 to 30 years. No large or significant differences in ages at time of leaving school were disclosed among the four farming areas. In all areas, the large range in levels of schooling attained suggests the existence of gross inequality of educational opportunity among our rural youth.

CURRENT ATTITUDE TOWARD EDUCATION

The attitudes toward education currently held by the farmers interviewed, although doubtless influenced by their reactions to their earlier formal educational experiences, have probably been tempered by subsequent life experiences. Fourteen percent regarded their educational experiences as excellent; 82 percent as good and 4 percent as less than good.

These opinions must not be taken as an accurate or expert evaluation of the quality of the formal education received by the farmers interviewed, but rather as indicative of their subjective reactions toward it, since only 14 percent were able to support their opinion with definite reasons. However, the fact that 35 percent of those giving reasons held that the formal education they had received had not proved necessary or helpful, and that only 29 percent expressed a desire for more of the same, should be of concern to educators.

SCHOOL SUBJECTS OF GREATEST VALUE

Agriculture received the highest rating, with 38 percent giving it as the subject of greatest value. Mathematics was a close second with 37 percent and arithmetic third with 22 percent. The other subjects, which were regarded as greatest value by only small percentages of the farmers, ranked as follows: science, reading, industrial arts, business, English, economics, geography, history, spelling, social studies, writing, engineering, philosophy.

For several obvious reasons, the ranking given above cannot be regarded as a correct appraisal of the comparative value of school subjects. Aside from the wholly subjective character of the opinions expressed, not all subjects had equal chances of being mentioned, since many of them are taught only in high school, and a few only in college, which institutions many of our farmers had never attended.

The relatively high rating given to agriculture, which had been studied in high school by only 56 percent of the farmers, was due quite largely to the high value accorded to the subject of vocational agriculture by those who had studied it. Eighty-two percent of the latter rated it as the most valuable school subject, while only 16 percent of those whose instruction in agriculture had been limited to general agriculture rated it as most valuable.

In this connection it is interesting to note the differences among the four farming areas in the ratings given to education in agriculture, because the order of their ratings on this point corresponds closely with the order the areas assume when arranged on the basis of the percentage of farmers in each area who had studied vocational agriculture in high school. In the case of other subjects the differences in the ratings given by farmers in the various farming areas are not nearly so great as they are in agriculture.

SCHOOL ACTIVITIES OF GREATEST VALUE

Since only 9 percent reported on this question, it is reasonable to assume that the participation in extracurricular school activities had been quite limited. This may be explained by the fact that school attendance of 21 percent had been limited to one-room schools, and that for many who did attend high school, the time and energy absorbed in traveling between home and school, and in the performance of farm chores, would operate against participation in school activities.

Of the 45 farmers reporting on the value of extracurricular activities, 51 percent believed athletics to have been of greatest value to them; 29 percent gave highest rating to Future Farmers of America, 18 percent to music, 11 percent to public speaking, 9 percent to dramatics and 7 percent to judging livestock.

Because less than one-third of the farmers had studied vocational agriculture in high school, it is rather significant that over one-quarter (29 percent) gave the Future Farmers a top rating, especially since at the time this investigation was made, in many schools offering vocational agriculture this organization had not been introduced.

EDUCATION IN AGRICULTURE

A distinction must be made between the two general types of agricultural instruction currently being offered in the high schools of Iowa. One of these types is known as "general agriculture" and has been offered in Iowa's schools for approximately 35 years. Until recently the offering of this type of agricultural instruction was mandatory, and therefore it could be found in the curriculum of every high school in Iowa, although students were not required to classify in it. In 1934 this mandatory legislation was repealed, and since then the number of schools offering it has been reduced.

The second and later type of agricultural instruction on the high school level is known as "vocational agriculture." This type of instruction is carried on under the provision of the national vocational education acts, and is commonly known as Smith-Hughes agriculture. Of the 504 young farmers interviewed, 157 (31 percent) had studied vocational agriculture in high school, and 128 (25 percent) reported having had instruction in general agriculture.

EDUCATION IN GENERAL AGRICULTURE

Thirty-two percent of the farmers who had attended high school had studied general agriculture. Eighty percent of this 32 percent had studied it for 1 year, 12 percent for 1 semester, 6 percent for 2 years and 2 percent for 3 years.

In view of the fact that practically all of these farmers had been reared on farms, it would seem that a larger percentage would have been interested enough in the subject to have studied it. The fact that such a large percentage did not elect it might be taken as indicative of the low regard in which it was held by them.

This inference is further substantiated by the opinions of the young farmers of the instruction they had received in general agriculture. Only 4 percent gave it a rating of very good; 40 percent, good; 40 percent, fair and 16 percent, poor. This low rating should be of concern to persons engaged in rural education.

EDUCATION IN VOCATIONAL AGRICULTURE

One hundred and fifty-seven, or 31 percent, of the 504 farmers interviewed had studied vocational agriculture in high school. The percentages varied considerably among the different farming areas, from 13 percent in the Pasture Area to 42 percent in the Northeast Dairy Area. Only 47, or 30 percent, had taken

TABLE 34. NUMBERS WHO RECEIVED INSTRUCTION IN VARIOUS PHASES OF VOCATIONAL AGRICULTURE IN HIGH SCHOOL.

Phases of vocational agriculture	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Farm shop, livestock, agronomy, farm management	14	19*	4	40	6	27	22	43	46	29
Farm shop, agronomy, livestock	24	34	2	20	5	23	6	11	37	24
Agronomy and livestock	16	22	0	0	6	27	12	23	34	22
Livestock only	1	1	2	20	0	0	5	10	8	5
Farm shop and livestock	2	3	0	0	2	9	1	2	5	3
Farm shop and agronomy	4	5	0	0	1	5	0	0	5	3
Agronomy only	3	4	0	0	0	0	2	3	5	3
Agronomy, livestock, and farm mgt.	3	4	0	0	1	5	0	0	4	3
Livestock, farm management	2	3	0	0	0	0	1	2	3	2
General	3	4	0	0	0	0	0	0	3	2
Farm shop only	1	1	1	10	0	0	0	0	2	1
Farm shop, livestock, and farm mgt.	0	0	0	0	1	4	1	2	2	1
Farm management only	0	0	0	0	0	0	1	2	1	1
Not reporting	0	0	1	10	0	0	1	2	2	1
Totals	73	30†	10	13	22	40	52	42	157	31

*Percentages based on number reporting.
†Percentages based on total number interviewed.

the full 4-year program in vocational agriculture. Fifteen percent had studied it for 3 years, 38 percent for 2 years and 13 percent for 1 year. The remaining 4 percent had devoted ½, 1½ and 3½ years to it.

In interpreting these data, it should be kept in mind that not all schools offering vocational agriculture, even yet, provide the full program of 4 years of vocational agriculture. At the time when many of these farmers were in high school not only were fewer schools offering vocational agriculture, but relatively fewer of them were providing the full 4-year program.

The content of the instruction in vocational agriculture received by our young farmers is shown in table 34. An acquaintance with the standard program of vocational agriculture in the schools of Iowa is essential to a clear understanding of this table. In this state, up to the present time, the complete recommended program of vocational agriculture in high schools has consisted of 4 years, each of which was devoted to one of four large areas or branches of agricultural instruction, namely, farm shop, livestock husbandry, agronomy and farm management. As has been pointed out, not all schools offer the full 4-year program, but practically all of them offer at least 2 years work, usually farm shop and either livestock or agronomy. As a result there is found to be considerable variation in the amount and nature of the instruction received.

The three in this group who reported the content of their instruction in agriculture as "general" probably were referring

to programs organized on the "horizontal" unit basis, in which short units in each of the different phases of agriculture are taught during the same year. This is a common practice in some of the Midwest States, but has not yet become general in Iowa.

Quite evidently the instruction in vocational agriculture is much more highly regarded than is that in general agriculture (see page 556). Eight percent rated it as excellent; 19 percent, very good; 48 percent, good; 23 percent, fair and only 2 percent as poor.

The instruction in the four large phases of agriculture reported upon did not differ greatly in quality, according to the opinions of the farmers; neither were there any significant differences among the four farming areas in this respect.

TYPES OF HOME PROJECTS CARRIED IN SUPERVISED FARM PROGRAMS

Every student enrolled in vocational agriculture must, under the provisions of the Smith-Hughes Act, be carrying on at least one home project during the time he is enrolled in vocational agriculture. A modern supervised farm-practice program is not considered adequate, however, unless it is comprised of more than one type of project, and the tendency is to develop rather complete long-time supervised farming programs made up of several related enterprises and improved practices expanding in a natural manner to become the basis for the boy's establishment in farming as an independent operator.

The types and number of the home projects carried by the young farmers interviewed are shown in table 35.

It is apparent that a large proportion of the supervised programs reported must consist of but one project, which might be explained in part by the fact that when many of these farmers were in high school the more comprehensive and long-time type of supervised farming program was not common. The types of projects carried by the majority were also those which could be completed in a single season; over two-thirds of them, i.e., those in hogs and in the different crops, being of this type.

Major Home Projects. In any adequately supervised farming program, regardless of how many individual enterprises it may include, there is usually one major project or enterprise which is basic or central to the whole program. The farmers were asked to indicate their respective major supervised home projects carried on while studying vocational agriculture. For 62 percent the major projects had been in the production of hogs. Beef projects had been the major ones for 11 percent; corn for 9 percent; dairy calves for 7 percent; poultry for 3 percent;

TABLE 35. TYPES OF HOME PROJECTS CARRIED BY VOCATIONAL FARMERS IN SUPERVISED PRACTICE PROGRAM.

Types	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Hogs	46	41	1	17	15	50	29	43	91	42
Corn	25	22	2	33	2	7	17	25	46	21
Beef	10	9	0	0	5	17	6	9	21	10
Dairy	4	4	1	17	2	7	5	7	12	6
Poultry	8	7	0	0	0	0	2	3	10	5
Potatoes	5	4	0	0	3	10	2	3	10	5
Sheep	2	2	1	17	1	3	2	3	6	3
Crops	4	4	1	17	0	0	0	0	5	2
Fruit	2	2	0	0	1	3	1	1	4	2
Legumes	2	2	0	0	0	0	1	1	3	1
Records	1	1	0	0	1	3	1	1	3	1
Herd Test	1	1	0	0	0	0	2	3	3	1
Garden	2	2	0	0	0	0	0	0	2	1
Orchard	0	0	0	0	0	0	1	1	1	1
Total	112		6		30		69		216	
Number reporting	73		10		22		52		157	
Mean number of projects	1.5		0.6		1.4		1.3		1.4	

sheep, herd testing, and potatoes for 2 percent each.

There are many obvious reasons for the popularity of hog production as major projects in Iowa. Evidently the majority of the corn projects reported were supplementary to the hog projects since only 11 of the 46 corn projects were reported as major projects. This is probably as it should be. Except for the Pasture Area, the percentages of the different projects in the various farming areas do not show great variation.

Duration of Major Projects. The duration, measured in years, of the major projects carried on by the young farmers while students of vocational agriculture varied considerably. Fifty-eight percent lasted for only 1 year, 19 percent for 2 years, 12 percent for 3 years and 11 percent for 4 years.

Earnings from Projects. The incomes from 79 projects were reported. The mean annual income was $94, with a range from $25 to $240. The highest annual income, $240, was from a certified barley project which was carried for only 1 year. The mean annual income from 4 corn projects was $138; from 57 hog projects, $101; from 1 poultry project, $80; from 9 beef cattle projects, $69; from 3 dairy cattle projects, $69; from 1 fruit project, $33 and from 1 sheep project, $25. The mean duration of the 79 project programs reported was 2 years.

GENERAL EVALUATION OF SUPERVISED FARMING

Programs in Vocational Agriculture. A summary of the sub-

TABLE 36. THE DURATION OF SUPERVISED FARMING PROGRAMS AND THEIR USEFULNESS IN ESTABLISHMENT IN FARMING.

Areas	Usefulness	Years duration							
		1		2		3		4	
		No.	%	No.	%	No.	%	No.	%
Cash Grain	Useful	1	20	9	33	6	43	13	81
	Not useful	4	80	18	67	8	57	3	19
Pasture	Useful	0	0	0	0	1	50	0	0
	Not useful	0	0	0	0	1	50	2	100
Western Meat	Useful	0	0	3	27	1	100	1	17
	Not useful	2	100	8	73	0	0	5	83
N. E. Dairy	Useful	1	33	2	29	2	33	15	83
	Not useful	2	67	5	71	4	67	3	17
All areas	Useful	2	20	14	31	10	43	29	69
	Not usefu	8	80	31	69	13	57	13	31

jective opinions of farmers as to the quality of the home project work they had carried on reveals that 9 percent rated it "very good"; 72 percent, good; 17 percent, fair; and only 2 percent, poor. Doubtless, an evaluation by experts in agricultural education would have resulted in lower ratings, chiefly because of the small scope and short duration of the projects.

Usefulness of Home Projects in Establishment in Farming. Of the 120 farmers who expressed their opinions on this question, 46 percent believed that their home-project work had been of substantial assistance to them in getting established in farming. The remainder did not believe that it had been of value to them in this respect. Although supervised farming programs doubtless make other contributions to establishment in farming, it is probable that the small financial returns from so many of the home projects was a large factor in shaping the opinions of the farmers.

The fact that the farming area in which over 50 percent of the farmers regarded their supervised farming programs of substantial assistance in establishment in farming, is the area in which the projects were of the longest duration prompted a further investigation of the relation between the duration of supervised farming programs and their usefulness in becoming established in farming. This relationship is shown in table 36.

The data presented in table 36 indicate a positive relationship between the length in years of supervised farming programs and their usefulness in establishment in farming. In the Pasture and Western Meat Areas the data are too scanty to deserve much consideration. In the other two areas, where more data are

TABLE 37. NUMBER OF YOUNG FARMERS WITH 4-H CLUB EXPERIENCE AND NUMBER OF YEARS OF PARTICIPATION.

	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%	No.	%	No.	%	No.	%	No.	%
Number reporting	76	31	13	17	17	31	16	13	122	24
Range of years enrolled	1–13		1–10		1–11		1–10		1–13	
Mean years enrolled	4.3		3.5		3.8		4.7		4.2	
Mean years carrying major projects	3.4		2.6		3.4		4.3		3.8	
Range of years carrying major project	1–11		1–8		1–9		1–10		1–11	

Note: Two reported 4-H experience, but gave no further data, so there were actually 15 instead of 13 in the Pasture Area with 4-H experience.

available, and in the state as a whole, the positive relationship between the duration and the usefulness of supervised farming programs in establishment in farming is quite marked. Thirty-one percent reported that their supervised farming programs had made their chief contribution to establishment in farming by providing foundation livestock. An equal number regarded the financial capital derived from them as most important in this respect. An additional 26 percent reported financial capital and foundation livestock as the chief contributions, while interest in the farm business was the chief value reported by the remainder.

EXPERIENCE IN 4-H CLUB WORK

Information on another type of instruction in agriculture was obtained; namely, that carried on through the 4-H Clubs of the state. The group participating in this experience was composed of some who had and some who had not studied vocational agriculture.

The number of young farmers interviewed who had had 4-H Club experience and the number of years of participation are presented in table 37.

The numbers of home projects reported in both vocational agriculture and 4-H Club are subject to correction because of the fact that a farmer may have been enrolled when a boy in a 4-H Club and in the program in vocational agriculture simultaneously, and the same home project may have been reported both as a 4-H Club and as a vocational agriculture project. How general this practice is has not been determined, but that it does exist in some communities is well known to those who are acquainted with current activities of these two programs. In our sample, 47, or 33 percent, of those with training in vocational agriculture reported projects in both programs. About 50 percent of them admitted that the projects in both were

identical, while the similarity of description in most of the other instances was so marked as to suggest strongly that the one and same project was being reported in most of the cases.

As in the case of vocational agriculture, hog projects in 4-H seem to have been the most popular type, comprising 30 percent of the total number reported. Hog, beef and dairy calf projects constitute 78 percent of the total number. The number of corn projects (4 percent) is perhaps smaller than might be expected, when the importance of the crop in Iowa is considered. It is worth noting that less than one-quarter (24 percent) of the farmers interviewed had ever been enrolled in 4-H Club work, and also that the percentages with 4-H Club experience varied considerably with the different farming areas. If our sample is representative, one would be led to conclude that the 4-H Club program is much more widespread in the Cash Grain and Western Meat Areas than in the other two.

Although the distinction between ordinary and major 4-H projects may not be very clear, some of the 4-H Club projects were classified as major projects by the farmers reporting them.

Practically all of the major 4-H projects carried by these farmers, when they were enrolled in the work, were in livestock, with hogs the most popular, followed by calves, beef cattle, dairy cattle and poultry, in the order named.

AID GIVEN BY 4-H PROJECTS IN ESTABLISHMENT IN FARMING

The opinions of the farmers were obtained as to the extent and nature of the aid given by their 4-H projects in becoming established in farming. Fifty-one percent of those reporting believed that their 4-H projects had been of material assistance in this direction, while 49 percent believed otherwise. Nineteen percent failed to report on this question.

In only one farming area, namely, the Cash Grain Area, did over 50 percent of the farmers report that their 4-H projects had assisted them in establishment in farming. In the Pasture and Western Meat Areas the percentages who found their 4-H helpful are 36 and 18 respectively.

THE NATURE OF THE AID GIVEN BY 4-H CLUB PROJECTS

The financial capital accumulated through the earnings from the projects was reported by 48 percent as the most valuable contribution the projects had made in their establishment in farming. Thirty-nine percent had found the livestock that they had accumulated as a result of their 4-H Club projects useful in getting a start in farming on their own. Twenty-two percent

placed the experience gained in their projects as a major contribution. The relatively low values, 22 percent reported for experience and 12 percent for interest in farming, probably do not indicate accurately the contributions actually made by these two outcomes of 4-H Club experience, because of the comparatively greater need felt for both financial capital and livestock in becoming established in farming.

GENERAL EVALUATION OF 4-H CLUB PROJECT WORK

The general evaluation of their 4-H Club experience was solicited in terms of "very good," "good," "fair," "poor" and "very poor." The opinions of the farmers reporting were as follows: very good, 31 percent; good, 59 percent; fair, 7 percent; poor, 3 percent. Only 65 percent of those carrying project work reported on this question.

In addition to the above, 12 young farmers reported having attended the 4-H Club Convention at Iowa State College. Nine of them evaluated this experience as "good" or "very good."

OTHER TYPES OF EDUCATION IN AGRICULTURE

Other types of systematic agricultural instruction in which the farmers reported participation may be classified under the following headings: short courses, part-time classes, adult evening classes, demonstrations and young people's groups.

SHORT COURSES IN AGRICULTURE

Only 18 farmers, or 4 percent of the total number interviewed, reported having ever attended short courses on agriculture. The subject matter of four of these short courses was reported as "general" agriculture, while the others were about equally distributed under animal husbandry, dairying, cattle feeding and poultry.

While a disappointingly few of our young farmers had attended short courses, one-third of those who did rated them as "very good," and another third as "good."

Farm and Home Week, although classified as a short course in the catalog of Iowa State College, seems to be regarded as something distinct by those interviewed. Of the nine who reported attendance at Farm and Home Week, two rated it "very good," four "good," two "fair" and one "poor."

PART-TIME CLASSES IN AGRICULTURE

Part-time classes in agriculture refer to the groups or classes of young men which are organized and conducted by the local teachers of vocational agriculture. The mean number of part-

time classes attended by those reporting participation was 2.4. Only 30, or approximately 6 percent of the farmers interviewed, had ever attended part-time classes. Of those, 14 each were in the Cash Grain and Northeast Dairy Areas, while none was reported from the Pasture Area. Twenty-one of the 30 farmers reporting attendance in part-time classes had studied vocational agriculture in high school.

The data obtained on the subject matter studied in part-time classes are not very definite, but evidently the subject matter was general in most instances and not restricted to any highly technical phase of agriculture. Three reported attending classes devoted to dairy problems, while four had made a systematic study of establishment in farming.

Although few had attended part-time classes, the great majority of those who did evaluated the work rather highly. Eight of the 29 expressing their opinion, rated the work, "very good," 20, "good," while only one gave a rating below "good."

ADULT EVENING SCHOOLS IN AGRICULTURE

One of the most rapidly expanding phases of the program in vocational agriculture is the work being carried on in evening classes for adult farmers. This is reflected in the fact that 121 (24 percent) farmers had attended adult evening schools, for periods varying from 1 to 9 years, the most for only 2 years.

While the percentage of the farmers interviewed who had attended adult evening schools in agriculture is somewhat gratifying to those interested in this program, the small number of schools attended by individual farmers leaves much to be desired. The mean number of years attended was only 2.2, and 42 percent had attended only one such school. This, coupled with the fact that the number of meetings held per year in most of the schools is not more than 10, and that the attendance in many of the classes has been very irregular, suggests that the instruction received by the typical farmers of Iowa from adult evening schools in agriculture is not very extensive, to say the least. However, the increase in the number of these schools, and probably in their effectiveness, has been very rapid, especially during the last few years; and as a consequence we may expect the percentage of farmers being reached by them to have been increased correspondingly.

Phases of Agriculture Studied in Adult Evening Schools. The courses offered in these schools may be roughly classified as (1) general or mixed, in which several different phases of agriculture may be studied, or (2) unit courses, in which all the meetings in one year's work are devoted to one phase or problem area of agriculture.

While the current tendency is away from the general and toward the unit type of course, evidently such practice had not become very common at the time the farmers interviewed had attended adult evening classes, since 70 percent reported attending the general courses.

Of the remaining 30 percent, 24 percent had studied the technical aspects of animal husbandry, farm crops, soils and farm shop, while only 5 percent had received instruction in the more strictly managerial or economic problems of agriculture. In view of the importance which recent developments in agriculture have given to the economic as contrasted with the more technical phases of agriculture, and the consequent great need of farmers for more training in the former, it would appear that the program of adult evening schools in the past was quite inadequate. Recent investigations by Miller[3] and Ruch[4] show a decided change in emphasis in the direction suggested during recent years.

Evaluation of Instruction in Adult Evening Schools. While the evaluations given are only subjective, they do indicate the attitude of the farmers. The opinions of 80 percent are decidedly favorable, although only 13 percent gave the instruction a rating of "very good," 67 percent rated it "good," 15 percent "fair" and 5 percent "poor."

AGRICULTURAL DEMONSTRATIONS

Attendance at demonstrations, which were in most cases given under the auspices of the Extension Service of Iowa State College, was reported by only 6 percent of the farmers interviewed.

The subject matter of these demonstrations varied greatly even for the small number reporting. Fifty-seven percent dealt with the vaccination of hogs, 10 percent in various other phases of animal husbandry, 7 percent in accounting and 3 percent each in soil erosion and orcharding.

Over 90 percent of those giving their opinions rated the work as "good" or "very good," and none thought it "poor."

AGRICULTURAL INSTRUCTION IN YOUNG PEOPLE'S GROUPS

Another agency offering educational experiences to our rural

[3]Miller, Glen William. The organization of farmers in evening school programs. Unpublished thesis. Library, Iowa State College, Ames, Iowa. 1939.

[4]Ruch, Rex Edward. Agricultural economics taught in adult agricultural evening schools in Iowa. Unpublished thesis. Library, Iowa State College, Ames, Iowa. 1939.

young people has come into existence during comparatively recent years. The needs of rural young people, who were not attending any educational institution, for educational, recreational, and social experience, found expression a few years ago in the coming into existence of scattered county and community groups of young people with common interests and needs. The movement attracted the attention of workers in rural and agricultural education and within a few years the work was recognized by the appointment of a specialist on the extension service staff of Iowa State College. This specialist assists in the organization of new groups and in the development of the group program, edits a monthly sheet of news, suggestions, reports, etc., and in other ways promotes and gives direction to the program.

As might be expected, not a large number (only 13) of the young farmers interviewed had been members of these young people's groups. Those who had, however, entertained a high regard for them, since six rated the programs as "very good," four as "good," one as "fair" and two as "poor."

While the number reporting on this phase of their educational experience is much too small to serve as an adequate basis for a fair evaluation of it, the large percentage reporting favorably should be encouraging to those engaged in the promotion of this agency, indicating as it does that an existing need is being served.

SYSTEMATIC INSTRUCTION IN NON-AGRICULTURAL OCCUPATIONS

Only 4 percent of the farmers interviewed reported participation in forms of systematic instruction other than in agriculture. One-third of those reporting had had some instruction in business, one-seventh had attended trade schools and one-seventh had taken correspondence work. The remaining eight farmers reported instruction in as many different fields.

The opinions of the young farmers on the quality of the instruction in non-agricultural fields were, on the whole, favorable. One-quarter rated it "very good," and 55 percent "good," while the remaining 20 percent considered it "fair."

OCCUPATIONAL EXPERIENCES OF YOUNG FARMERS

It was deemed advisable to make inquiry into the occupational experiences of our beginning farmers, first, because of the recognized educational value of experience in attainment of occupational competency, and second, because of the light such information might throw upon the problems which beginning

farmers encounter in their progress up the agricultural ladder.

For purposes of this report, the occupational experiences of our interviewees will be classified under two headings: (1) Those occurring in the period between the time of quitting school and establishment in farming as independent operators and (2) those occurring since becoming established.

The occupational experiences during the first period, which had a mean duration of 5.6 years and a range from 0 to 23 years, may be further classified under (1) non-farming experiences and (2) farming experiences.

NON-FARMING OCCUPATIONAL EXPERIENCES

Twenty-nine percent of the farmers interviewed reported having had occupational experiences other than farming. The mean number of years spent in such employment was 3.9 and the mean number of jobs 1.2. While the four areas are quite similar in the percentages of farmers with non-farming occupational experience, there is a range from 1.8 years in the Meat Area to 7.1 years in the Pasture Area in the mean number of years spent in non-farming work.

The non-farming experiences reported covered a wide variety of the common occupations, mostly on the unskilled and semi-skilled levels. Trucking and trades headed the list and accounted for 28 percent of those reporting. Selling came next with 25 percent. At the bottom of the list, with one individual each reporting, were: club agent work, forestry, navy, rural electrification, soil conservation, greenkeeping and journalism. Not many had experience in occupations closely enough related to agriculture to make experience in them of any direct value to beginning farmers.

FARMING EXPERIENCES

The different types of farming experience reported may be classified as follows: (1) Working on home farm with no definite wage agreement, (2) working at home for wages, (3) farming on home farm as partners with parents, (4) farming with own enterprises at home, (5) farming as hired man away from home, (6) farming as tenants, (7) farming as owners, (8) miscellaneous.

WORKING ON HOME FARM WITH NO DEFINITE WAGE AGREEMENT

Seventy-one percent had stayed on the home farm after leaving school, working as a family member without specified wage agreements. The differences among the four farming areas in

this respect were small and not statistically significant. The same was true with reference to the mean number of years spent in this fashion, which was 4.9 for all those reporting.

WORKING AT HOME FOR WAGES

Evidently it is not a common practice in any of the areas surveyed for farm boys to receive definitely specified wages while staying home and working full time on the farm, since only 13.6 percent reported doing so. While some variation exists among the different areas in this respect, in no area is the proportion large, the range being from 5 to 16 percent.

The mean annual wage received by all those who reported on this item was $378. The mean wages for the different areas do not vary greatly, being for the Cash Grain Area, $348; for Pasture, $365; for Western Meat, $430; and for Northeast Dairy, $379.

FARMING ON THE HOME FARM AS PARTNERS WITH PARENTS

Fourteen percent of the young farmers interviewed reported that they had at one time worked under partnership arrangements with their parents. The percentage who had experience as partners with their parents varied considerably in the different areas, being for the Cash Grain Area, 20.5; for Pasture, 3.8; for Western Meat, 16.6 and for Northeast Dairy, 7.45. In approximately 80 percent of the cases reported, the partnership was on a crop share basis, and in 8.6 percent, stock share. In the remainder, the arrangements were indefinite.

The mean duration of the partnership arrangements was 4.7 years, and ranged from 1 to 11 years.

The numbers reporting the incomes derived from partnership arrangements with their parent are too small to provide an adequate sampling. The mean incomes reported range from $300 for the Pasture Area to $1,367 for the Dairy Section.

FARMING WITH OWN ENTERPRISES AT HOME

Thirty-four percent reported the operation of productive farm enterprises of their own while living at home with their parents. In many instances, doubtless, these enterprises were the outcomes or the continuations of 4-H Club work and the supervised farming programs in vocational agriculture. The young men who had studied vocational agriculture in high school reported owning productive enterprises at home, more frequently than those who had not, the percentages being 40.1 and 31.1, respectively.

The gross incomes derived from the productive enterprises

varied greatly, as might be expected. The mean income for all reported was $150, with a range from 0 to $900.

FARMING AS HIRED MAN AWAY FROM HOME

Fifty-one percent of the young farmers had worked as hired men away from their parental homes. The differences among the farming areas in this respect were small and not significant.

The types of work reported in at least 75 percent of the cases were agricultural in nature, with general farm work accounting for almost two-thirds.

When the number who worked as hired men at home is added to the number who worked as hired men away from home, as may well be done, since only very rarely did an individual report doing both, it will be noted that about two-thirds worked as hired men before beginning farming for themselves.

The mean number of years spent working as hired man away from home were 2.3, and the mean annual wage was $272. Doubtless in most cases, as is the common practice, board and room were provided by employer. Even so, the wages reported are hardly large enough to enable a young man to save, within a reasonable number of years, any considerable part of the amount of capital needed to enter farming, in this state, as an independent operator.

FARMING EXPERIENCES AS INDEPENDENT OPERATORS

The number of farmers who have, at some time in their careers, farmed as tenants together with the acreages of the first farms occupied on a rental basis and the acreages of the farms at present being operated by them, are shown in table 38.

Several observations may be made through inspection of table 38. Perhaps the most significant from the standpoint of investigation is the relatively large percentage (83) of the farmers interviewed who have at some time in their career operated farms

TABLE 38. SIZES OF FARMS FIRST OCCUPIED BY TENANTS AND OF THOSE BEING OPERATED AT PRESENT BY SAME FARMERS.

Items	Cash Grain	Pasture	Meat	Dairy	All
Number of farmers reporting	214	63	43	98	418
Percentage of farmers reporting	86	81	80	79	83
Mean acreage of first farms rented	150.6	129.0	107.6	129.9	137.8
Range in acreage of first farms rented	20–500	20–340	20–300	20–540	20–540
Mean acreage of present farms occupied	167.9	145.6	120.2	137.2	152.5
Range in acreage of present farms occupied	20–500	20–460	20–340	20–340	20–500
Mean difference in acreage, between first and present farms	17.3	16.5	12.6	7.3	14.7

TABLE 39. DISTRIBUTION OF FARMERS ACCORDING TO YEARS OF OCCUPANCY ON RENTED FARMS. (PRESENT FARM EXCLUDED)

No. of years	Cash Grain		Pasture		Meat		Dairy		All	
	No.	%*	No.	%*	No.	%*	No.	%*	No.	%*
1	27	48.2	5	31.3	5	41.7	16	53.3	53	46.1
2	17	30.4	7	43.7	4	33.3	9	30.0	37	32.2
3	3	5.4	3	18.8	2	16.7	1	3.3	9	7.8
4	5	8.9	0	0.0	0	0.0	0	0.0	5	4.4
5	2	3.6	1	6.2	1	8.3	3	10.0	7	6.1
6	2	3.6	0	0.0	0	0.0	0	0.0	2	1.7
Total No. reporting	56	22.6†	16	20.5	12	22.2	29	23.0	113	22.4
Mean years	2		2		2		2.1		2	

*Percentages based on the number reporting.
†Percentages based on the number interviewed.

on a tenant basis. Moreover, the four areas do not differ greatly in the percentages of farmers who have been tenants.

Another observation is the great range to be found in the sizes of the farms operated by tenants, ranging as they do from 20 acres to 500 acres.

The relatively small mean difference of 14.7 acres between the farms first operated and those occupied at present indicates that a large proportion of young farmers renting their first farms must be ready to undertake operations on a rather extensive scale, necessitating the possession of considerable equipment and capital. As will be noted, there is considerable variation in the mean sizes of farms in the different farming areas.

The length of tenure on tenant-operated farms, exclusive of farms occupied at time of survey, is shown in table 39.

The relatively small number reporting on this item is due to the fact that a large percentage are still operating their first farm. One hundred and thirteen had lived on more than one rented farm since beginning to farm as an independent operator. The mean number of years spent on each rented farm (approximately 2 years in all areas) agrees closely with the corresponding data for the whole state as revealed by other studies. It should be noted that the four areas are quite similar in this respect.

Eighty-five percent of the tenant farmers operated their farms on a crop-share basis. Approximately 14 percent were paying cash rent, while slightly less than 1 percent had stock-share leases. Not much difference existed among the four farming areas on this point.

RELATIONSHIP OF BEGINNING TENANT FARMERS TO OWNERS

The relationship of the beginning farmers, while tenants, to the owners of their rented acreages was investigated. In slightly over two-thirds (67.5 percent) of the cases no blood relationship existed between tenant and owner. In 19 percent, the tenants were the sons of the owners, nephews in 6.1 percent, grandsons in 2.7 percent, sons-in-law in 2.2 percent, brothers in 1.0 percent, cousins in 0.7 percent, and brothers-in-law in 0.5 percent. It is indicative of the influence of consanguinity that the proportion in each relationship category above corresponds roughly to the degree of relationship existing.

FARMING AS OWNERS

Eighty-two, or approximately 16 percent, of the farmers interviewed had achieved the status of farm owners at the time of interview. The mean size of the farms owned was 183 acres in the Cash Grain Area, 136 acres in the Pasture Area, 236 acres in the Western Meat Area, and 147 acres in the Northeast Dairy Area. A great variation in the size of farms, ranging from 10 acres to 600 acres, occurred in all areas. The mean number of years owners had been operating farms as owners was 3.5. The means for different areas varied considerably, being 3.5 in the Cash Grain Area, 2.2 in the Pasture Area, 5.4 in the Western Meat Area and 3.3 in the Dairy Area.

RELATIONSHIP OF PRESENT OWNERS TO PREVIOUS OWNERS

The relationship of present to past owners of the farms involved indicates the strong influence which family relationship plays in achieving ownership. Slightly over 50 percent of the owner operators were related to the previous owners of the farms they occupied. Thirty-one percent were sons of the previous owners; 4 percent, sons-in-law; 4 percent, grandsons; 3 percent, brothers; 3 percent, nephews, and 5.5 percent of the owners were operating land which had been family estates.

MISCELLANEOUS FORMS OF LAND TENURE

In addition to those already reported who were farming either as independent tenants or as owners, 25 farmers, or 5 percent of the total number, reported farming under other types of tenure. Nine of these were farming as hired operators, seven as partners and nine under various and indefinite arrangements. Although thrown into these groups for purposes of tabulation, considerable variation existed in details, even among those in

TABLE 40. PATTERNS OF OCCUPATIONAL EXPERIENCE SINCE LEAVING SCHOOL AND NUMBER IN EACH.

Patterns of occupational experience	Number	Percentage
*Work at home + hired hand + tenant	58	11.5
Work at home + tenant	41	8.1
Home enterprises + work at home + hired hand + tenant	39	7.7
Home enterprises + work at home + tenant	33	6.5
Non-farm + work at home + hired hand + tenant	30	5.9
Non-farm + hired hand + tenant	18	3.6
Non-farm + work at home + tenant	15	3.0
Home enterprises + hired hand + tenant	12	2.4
Non-farm + home enterprises + work at home + hired hand + tenant	12	2.4
Non-farm + home enterprises + work at home + tenant	11	2.2
Hired hand + tenant	11	2.2
Work at home + partnership at home + tenant	8	1.6
Home enterprises + tenant	8	1.6
Work at home + partnership at home	7	1.4
Home enterprises + work at home + work at home for wages + tenant	7	1.4
Home enterprises + work at home for wages + partnership at home	7	1.4
Non-farm + tenant	6	1.2
Work at home + work at home for wages + tenant	6	1.2
Owners (only)	5	1.0
Partnership at home + tenant	5	1.0
Tenant (only)	5	1.0
Work at home + hired hand + tenant + owner	5	1.0
Work at home + work at home for wages + tenant	5	1.0
Non-farm + work at home + hired hand + tenant	5	1.0

*Working at home as family member without definite wage agreement.

the same groups. Twenty-one of the 25 were close relatives, sons and brothers, of the owners of the farms they operated.

PATTERNS OF OCCUPATIONAL EXPERIENCE

The many different patterns of occupational experiences reported by the 504 farmers interviewed constitute an interesting sociological phenomenon. One hundred and twenty different combinations or patterns of occupational experiences were reported. The number of occupations in the different combinations or patterns reported ranged from one to six.

The combinations of occupational experiences in which as many as 1 percent of the farmers participated are reported in table 40. The differences among the four farming areas in respect to the number reporting each occupational pattern were not large enough to be significant.

Table 40 plainly indicates that only relatively few of the young farmers do not have to climb several of the rungs of the agricultural ladder. Of the 484 reporting on this point, 4 had had experience in all six of the levels listed, 39 had had experience in five of the levels, 142 on four and 190 on three. One implication upon the program in vocational agriculture which might be drawn from these data is that the average curriculum should give instruction in the problems to be encountered in at least the more common of the stages leading toward farm ownership.

THE EFFECT OF INSTRUCTION IN VOCATIONAL AGRICULTURE UPON THE PROGRESS MADE BY BEGINNING FARMERS

The study of the effect of instruction in vocational agriculture on the progress of beginning farmers is not listed as one of the primary objectives of this investigation, because it was not found practical to devote to the question, which is a rather complicated one, the time and expense necessary for an adequate treatment of it. It is obvious that several conditions, other than the nature and extent of the formal instruction in agriculture received by these young farmers, operate to differentiate those who had studied vocational agriculture from those who had not. Moreover, the isolation and control of these conditioning factors and the measurement of their influence upon the occupational status and competency of farmers constitute an extremely complicated problem.

However, in rough comparisons between the two groups in question, numerous differences of varying magnitude and reliability were disclosed. Certain of these differences which might logically be attributed, at least in part, to differences in educational experiences are described in the following pages.

The obtained differences when subjected to statistical analysis were found to vary considerably in statistical significance. In the discussion which follows the differences are grouped into three classes as follows: (1) Those differences with a critical ratio of 3.0 or greater, which, of course, approaches closely the 100 percent level of certainty; (2) those with critical ratios from 3.0 to 2.0, or down to the 95 percent level and (3) those with critical ratios less than 2.0.

Of the 504 farmers interviewed, 157, or 31 percent, had studied

vocational agriculture in high school, while the remaining 347, or 69 percent, had not.

DIFFERENCES WITH CRITICAL RATIOS OF 3.0 OR GREATER

In only three items did the obtained differences between the vocational and nonvocational groups have critical ratios of 3.0 or more. They are:

RELATIONSHIP OF TENANT FARMERS TO THE OWNERS OF THE FARM THEY OPERATE

Forty percent of the renters with vocational education in agriculture and 24 percent of the nonvocational group were related to the owners of their farms. This fact is mentioned here, not because it could be regarded as the result of the instruction in agriculture, but because it is one of several facts which when taken together indicate quite clearly that those who had studied vocational agriculture came from homes with a somewhat superior economic and social status than did those in the nonvocational group. This is a factor which must always be kept in mind as we proceed with our comparisons.

SCHOOL SUBJECTS FOUND MOST HELPFUL IN FARMING

The only school subject in which any highly significant difference was found between the two groups was agriculture. Here the difference was very pronounced and highly significant. (CR=10.0). Eighty-two percent of the vocational group reported agriculture as the school subject of greatest value to them as against 16.2 percent of the nonvocational group. The reader should be reminded that in Iowa schools two types of agricultural instruction are offered; i.e., vocational and nonvocational or general. The obtained difference of 66 percent might therefore be regarded as being based upon a comparison of these two types of agricultural instruction.

CHURCH ATTENDANCE

Certain data were secured regarding the personal and social adjustment of the farmers interviewed. The only highly significant (CR=3.0) difference in this area was in the matter of church attendance. Only 50 percent of the vocational group reported attending as much as 50 percent of the church services, while 33 percent of this group never went to church. The corresponding percentages for the nonvocational group were 83.5 percent and 0.5 percent, respectively.

DIFFERENCES WITH CRITICAL RATIOS FROM 2.0 TO 3.0

On several items differences possessing considerable statistical significance were found, though some of them are probably not important. The following are perhaps worthy of mention:

FARMING EXPERIENCE AS A FAMILY MEMBER AFTER QUITTING SCHOOL

The term "family member" refers to one who stays home and helps with the farm work but does not receive any definite amount in wages or allowances. Seventy-four percent of the nonvocational and 63.8 percent of the vocational group reported this experience. The difference might be due in part to the vocational training one group had received.

QUALITY OF SOIL IN THE FARM OPERATED

The standard employed in rating the quality of the soil was the opinion of the farmers, checked to some extent by the observations of the investigator. Sixty-four percent of the vocational group rated the soil of their farms as "good" or "better" as compared to 48.9 percent of the nonvocational. This difference might have resulted from greater ability of the vocationally trained farmers to evaluate the quality of land when selecting it.

USE OF IMPROVED AGRICULTURAL PRACTICES

While the percentages employing improved agricultural practices were greater in the vocational than in the nonvocational group, in only two practices did the obtained differences have critical ratios as large at 2.0. One of these was in the use of protein supplement, where the difference in percentage was 13.0 (76 percent—63 percent); while the other was in the use of purebred sires which nearly 11 percent more of the vocational group practiced. The percentages were 81.5 and 70.9.

Of the 13 different practices reported only three were practiced by a larger percentage of the nonvocational group. These were (1) Cooperating with the AAA, (2) spraying fruit trees and (3) vaccinating hogs. In both groups the number employing practices was not as great as we would hope for, and the comparatively small difference between the two groups in this respect was somewhat disappointing to one engaged in agricultural education.

EVALUATION OF THE PART-TIME INSTRUCTION IN AGRICULTURE

Relatively small percentages of both groups reported participation in part-time instruction in agriculture. Probably in-

struction in agriculture received in high school had made those in the vocational group more critical since only 15 percent of this group rated the instruction in part-time classes as "very good" as compared to 55.6 percent of the nonvocational.

THE PERIOD BETWEEN LEAVING SCHOOL AND ESTABLISHMENT IN FARMING

The mean length of this period was 6.3 years for those in the nonvocational group and 4.1 years for those who had studied vocational agriculture. The difference of 2.2 years may not be due entirely to the influence of the agricultural instruction received since other factors affecting the length of this period may have been operative. However, the critical ratio indicates that in 95 cases out of 100 those who have studied vocational agriculture in high school become established in farming more quickly than do those without such instruction.

THE CURRENT AGES OF FARMERS

The mean ages of the farmers at the time of the investigation was 27.5 years for the nonvocational group and 24.9 for the vocational. It will be noted that this difference in current ages is in line with the difference referred to in the preceding paragraph and probably the result of the same factors.

MARITAL STATUS

Sixty-nine percent of the nonvocational and 56 percent of the vocational group were married. This difference of 13 percent is probably due to the older age of the nonvocational group, since those in the vocational group seem to marry at a slightly younger age. The latter group seems to have one advantage in this connection—none of them has to live with "in-laws."

EDUCATIONAL STATUS

In respect to the extent of formal education received, those in the vocational group have the advantage of 1½ years. The mean number of years of schooling reported by those with vocational agriculture was 12.0 as contrasted with 10.5 for the nonvocational group. This may be additional evidence of the superior economic status of those in the vocational group, but could be due to the holding power of vocational agriculture in the school curriculum.

RELATIONSHIP TO THE OWNERS OF THE FARMS BEING OPERATED

Sixty-one percent of those who had studied vocational agriculture are related to the owners of the farms they operate, whereas only 43 percent of the nonvocational group are so fortunate. This fact is in harmony with several others we have referred to as indicative of the advantageous economic position of those in the vocational group, resulting from the accident of birth rather than from the instruction received in agriculture.

PRODUCTION PROBLEMS EXPERIENCED

Whatever may be the explanation of the fact that 62.5 percent of the vocational group reported having encountered difficult problems in the production of crops and animals as contrasted with 48.2 percent of the nonvocational group, the fact itself is a rather interesting one. Could it be that the instruction which the farmers had received had made them more able to identify and appreciate such problems? This is what we should like to think is the case rather than that those in the nonvocational group were more able to solve their problems and therefore found them less difficult.

PARTICIPATION IN RECREATIONAL ACTIVITIES

While in general the members of the vocational group reported more active participation in recreational activities, only in frequency of attendance in motion pictures did the difference between the two groups approach statistical significance. Here 79 percent of the vocational and 66 percent of the nonvocational group reported frequent participation in this type of recreation.

TABLE 41. COMPARISON OF NONVOCATIONAL AND VOCATIONAL GROUPS ON FACTORS NOT ATTRIBUTABLE TO DIFFERENCES IN EDUCATION IN AGRICULTURE.

Item	Nonvocational	Vocational
Farming in same county as reared	74.9%	83.3%
Number of brothers in family	2.1	1.5
Education of brothers	10.4 years	11.1 years
Education of sisters	11.4 years	12.0 years
Fathers owners of farm from beginning	18.4%	21.0%
Fathers retired	15.9%	19.3%
Non-farm experience	26.9%	33.7%
Experience as hired hand	3.6 mean years	2.0 mean years
Work at home for wages	12.1%	17.2%
Age at leaving school	17.0 years	17.8 years
Borrowed money from relatives	12.2%	15.5%

DIFFERENCES WITH CRITICAL RATIOS OF LESS THAN 2.0

In addition to those already discussed, numerous smaller and less significant differences were disclosed which are of interest to those engaged in agricultural education. The majority of these differences "favor" those who had studied vocational agriculture in the sense that they indicate a more advantageous parental home situation and/or greater occupational competency and a wider use of approved agricultural practices in this group than in the other.

As indicative of a more advantageous home situation insofar as establishment in farming is concerned, rather than of greater competency due to education, table 41 is submitted.

Another list of obtained differences, shown in table 42, throws some light on the comparative occupational efficiency of the two groups. Lest we are too quick to claim that these differences are the result of instruction in agriculture received by the vocational group, it should be noted again that the differences shown in table 41 strongly suggest the existence of more favorable social and economic conditions in home situations of this group. Whatever may be the explanation, the differences given in table 42 are perhaps worth noting, although some readers may be disappointed that they are not greater.

The differences on the last three items in table 42 might be attributed to the greater appreciation and sensitivity to problems, resulting from the instruction in agriculture which those in the vocational group had received, rather than to the greater

TABLE 42. COMPARISON OF NON-VOCATIONAL AND VOCATIONAL GROUPS ON FACTORS AFFECTING OCCUPATIONAL EFFICIENCY.

Items	Nonvocational	Vocational
Own farm enterprises at home	31.1%	40.1%
Partnership at home	12.2%	19.2%
Mean income from partnership	$379.00	$711.00
Value of farm per acre	$ 94.60	$108.90
Mean number improved farm practices used	5.9	6.2
Keeping farm accounts	36.6%	45.9%
Feeding minerals	63.1%	70.7%
Feeding protein supplement	63.7%	76.4%
Modernizing buildings	19.3%	23.6%
Liming soil	8.4%	12.7%
Keeping production records	31.7%	35.0%
Having difficulty in obtaining good farm land	42.4%	35.6%
Raising own livestock	18.6%	25.7%
Shopping about for good cattle	10.2%	20.7%
Practicing approved sanitation methods	12.6%	20.4%
Increasing knowledge through reading	7.6%	10.9%
Building new farm buildings	13.4%	23.3%
Reporting production problems	68.2%	62.5%
Reporting problems in securing stock	45.0%	52.2%
Reporting management problems	22.4%	35.0%

ability of the nonvocational in solving problems. At least the first explanation is the one which doubtless appeals more to those of us engaged in vocational education in agriculture. It should also be observed that most of the quantitative data listed above refers merely to the number of farmers participating and not to the extent and the quality of their activity, which might well be much more extensive and effective in one group than in the other.