



Efficiency in vocational agricultural instruction in Montana
by Eugene A Egan

A THESIS Submitted to the Graduate Committee in partial fulfillment of the requirements for the degree of Master of Science in Agricultural Education
Montana State University
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Abstract:

Placement in farming of those boys having one year or more of vocational agriculture has in the past been attributed to a number of factors.

This study intends to discover and verify the important factors and suggest a plan of improvement for increasing the efficiency of the vocational agricultural departments in Montana with respect to placement.

Although many factors have contributed to the actual placement of young men in farming, a relatively small number have been discovered to exert any real influence. The type of agricultural program, the supervised practice program, the instructor and the follow-up program have, in the past, had the greatest influence on placement of young men in farming. However, there are factors in addition to these already mentioned over which the agricultural instructor has less control which seem to have even more influence upon occupational selection. The background, occupational experience, and opportunity of an individual have all seemed to play more important parts.

Of those who are farming at the present time, tenure of parents, ownership in the home place, opportunity for getting control of a farm have all been very influential in placement. Results indicate that young men from vocational agriculture departments in Montana have been using the "farm ladder" route in getting into farming. Problems encountered by those men in the majority of cases were either problems of financing their entrance into farming or finding employment in the case of times entering other occupations, and achieving security in the case of both groups.

Conclusions drawn and recommendations suggested were based on the results of summarization of placement records in 30 departments in this state and on a study of 149 individuals who have had one or more years of vocational agriculture in high school. Recommendations suggested for the improvement of the program of vocational agriculture in Montana include: careful selection of teachers of vocational agriculture; careful selection of students for training in vocational agriculture; concentration on improvements in methods of teaching, selection of subject matter and teaching activities; improvement of the supervised practice program; development of a more effective follow-up program with former students; the development of more thorough and accurate records on former students, and extension of the research program.

Influential factors that are not subject to direction by the agricultural instructor could best be given consideration by careful selection of the students. Recommendations have been general, in most cases, with illustration of possibilities for improvement by example or reference. The extent of improvement will be decided by careful planning for existing conditions and successful execution of accurate plans.

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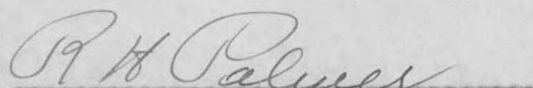
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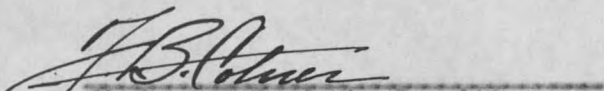
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"If the American farmer is to prove an exception to the history of the world and remain the independent, thinking, reading, progressive individual he has this far been instead of becoming a peasant, as he has before in all history, it is necessary that he be given the broadest possible training and be educated most thoroughly in the fundamental principles underlying his profession."

--Henry Jackson Waters -- 1909

EFFICIENCY IN VOCATIONAL AGRICULTURAL INSTRUCTION
IN MONTANA

ABSTRACT

Placement in farming of those boys having one year or more of vocational agriculture has in the past been attributed to a number of factors. This study intends to discover and verify the important factors and suggest a plan of improvement for increasing the efficiency of the vocational agriculture departments in Montana with respect to placement.

Although many factors have contributed to the actual placement of young men in farming, a relatively small number have been discovered to exert any real influence. The type of agricultural program, the supervised practice program, the instructor and the follow-up program have, in the past, had the greatest influence on placement of young men in farming. However, there are factors in addition to these already mentioned over which the agricultural instructor has less control which seem to have even more influence upon occupational selection. The background, occupational experience, and opportunity of an individual have all seemed to play more important parts. Of those who are farming at the present time, tenure of parents, ownership in the home place, opportunity for getting control of a farm have all been very influential in placement. Results indicate that young men from vocational agriculture departments in Montana have been using the "farm ladder" route in getting into farming. Problems encountered by these men in the majority of cases were either problems of financing their entrance into farming or finding employment in the case of those entering other occupations, and achieving security in the case of both groups.

Conclusions drawn and recommendations suggested were based on the results of summarization of placement records in 30 departments in this state and on a study of 149 individuals who have had one or more years of vocational agriculture in high school. Recommendations suggested for the improvement of the program of vocational agriculture in Montana include: careful selection of teachers of vocational agriculture; careful selection of students for training in vocational agriculture; concentration on improvements in methods of teaching, selection of subject matter and teaching activities; improvement of the supervised practice program; development of a more effective follow-up program with former students; the development of more thorough and accurate records on former students, and extension of the research program.

Influential factors that are not subject to direction by the agricultural instructor could best be given consideration by careful selection of the students. Recommendations have been general, in most cases, with illustration of possibilities for improvement by example or reference. The extent of improvement will be decided by careful planning for existing conditions and successful execution of accurate plans.

PART I. INTRODUCTION

Historical Background

Teaching of vocational agriculture to farm boys throughout our nation, the territories of Hawaii, and Alaska, the Island of Puerto Rico, and the District of Columbia has been made possible through a series of legislative acts and supplementary acts. Prominent among these were the Smith-Hughes Acts of 1917 and 1924,^{1/} the George-Reed Act of 1929,^{2/} the George-Elsey Act of 1934,^{3/} and the George-Deen Act of 1936.^{4/} Under these acts, Federal policies have given the courses in vocational agriculture throughout the United States and its territories a common background and a similar framework. These courses have some definite characteristics that distinguish them from the other subjects in high school. More time is devoted to the study of agriculture than to the academic subjects. In addition to regular class work, a boy is required to carry on a program of supervised farm practice. This program, often referred to as a "project", provides a proving ground for much of the information presented in the class room; provides for experience in farming; and is a start toward acquiring ownership in an entire farm. Although we have placed the greatest emphasis on the all-day program dealing with high school boys, the original bill stressed adult and out-of-school youth education

^{1/} Public. No. 347, Sixty-fourth Congress, S. 703; Public. No. 64, Sixty-fifth Congress, H. R. 5949; Public. No. 36, Sixty-eighth Congress, H. R. 4131.

^{2/} Public. No. 702, Seventieth Congress, S. 1731.

^{3/} Public. No. 245, Seventy-second Congress, H. R. 7059.

^{4/} Public. No. 673, Seventy-fourth Congress, H. R. 12120.

just as strongly as it did the high school program. 5/ Many schools in the southern section of the United States and a few in the central states have developed further in adult education than the rest of the country.

In Montana, the first courses in agriculture in the secondary schools were taught in high schools at Billings and Dillon in 1908, and in the Flathead County High School in 1912. 6/ The passage of the Smith-Hughes Act of 1917 resulted in the establishment of 9 vocational agriculture departments in the schools of Montana in 1917 and 1918. 7/ This number increased to 20 in 1920; 24 in 1925; 26 in 1930; 40 in 1935; and 56 in 1939. The total number of departments started in Montana since 1917 is 76, which means that 20 have discontinued teaching agriculture to date. There were 15 departments in the state 15 years of age or older and 25 departments that have been in existence 10 years or longer.

Much thought and effort have been spent during this period in improvements in type and content of instruction; in developing suitable size, scope, and continuation qualities of the supervised practice program; in education for a democracy through a Future Farmer program; and in enlarging a follow-up program of part-time and evening schools.

During the first years following the acts that made federal funds available for the teaching of vocational agriculture in high schools, directors,

5/ Public. No. 347, Sixty-fourth Congress, S. 703; Public. No. 64, Sixty-fifth Congress, H. R. 5945; Public. No. 35, Sixty-eighth Congress, H. R. 4121.

6/ Harmon, W. E., Montana Superintendent of Public Instruction Report 1904-16, Independent Publishing Co., Helena, Montana, 1916.

7/ Truuper, May, Fifteenth Biennial Report of the Superintendent of Public Instruction of Montana, Independent Publishing Co., Helena, Montana, 1918.

supervisors, and instructors concentrated on developing skills in production. They firmly believed their duty to be teaching young men to "grow two blades of grass where but one grew before". This belief was common at that time among many leaders interested in improvement in agriculture. On the whole, agricultural teachers concentrated on presentation of abstract subject matter and development of production skills and often neglected to develop practices that would encourage more application and carry over to the home farm. Although the primary objective of a course in vocational agriculture has always been "to train present and prospective farmers in proficiency in farming", 8/ methods used in achieving this end have undergone many changes. In most cases it was assumed that those interested and qualified for farming would place themselves by the "farm ladder" route without further assistance. Naturally no data were available these first years on placement in farming of graduates from departments of vocational agriculture.

The Advisory Committee's report on vocational education to the President in February, 1939, revealed assumptions similar to the above when it said, "For the most part teaching in vocational agriculture has been of high quality. A new and enriched curriculum is slowly emerging and the emphasis is being shifted from the manipulative skills and problems of production to problems of an economic and managerial nature". 9/ The members of this committee based their criticisms on type of teaching in practice and subject matter content. Other reviewers of the progress of courses in vocational agriculture criticize

8/ Myers, C. E., "Effectiveness of Vocational Education in Agriculture", Agric. Series No. 13, Bul. No. 82, Federal Department of Education, 1937.

9/ Russel, John Dale, "Advisory Committee Report on Vocational Education to the President", Study No. 8, Washington, D. C., 1938.

or praise the program as a method of preparing students for college; or question the desirability of placing such a course at the secondary school age level; or question the cost with no thought to the quality of the product. This writer feels that many of these "adherents" or "critics" have missed the point.

Since vocational agriculture is an efficiency device, its progress should be based on efficiency in obtaining results. As Prosser and Allen state, "Social wealth furthers the opportunity for society to maintain stability and progress. The greater the degree to which social wealth can be produced in the most efficient way, the greater our potential resources for achieving our ends as a nation. On the whole, organized vocational training is an efficiency device. It undertakes to do nothing which has not been done before; it merely undertakes to discharge the same functions more efficiently." 10/

"Training a boy enrolled in a vocational agriculture department is only part of the responsibility of the department. His establishment in farming is the next step." 11/

Some attempts have been made to measure the efficiency of programs of vocational agriculture using placement in farming as a basis. These studies have divided themselves into two distinct types: First, studies on placement of boys who dropped out of school before completing their high school course; and second, studies of boys who graduated from high school. In very few cases have the researchers gone further than tabulating the results and drawing conclusions as to the significance of these results.

10/ Prosser and Allen, "Vocational Education in a Democracy", Century Co., New York, 1925, pp. 14-15.

11/ The United States Department of Interior, Office of Education Bulletin No. 2, Study No. 8, U. S. Government Printing Office, Washington, D. C., 1937.

Two studies conducted in Pennsylvania dealing with the first type give a partial picture of the number that leave high school before graduating and the status of these boys. In a study of four high schools in this state, Bailey discovered that, of those enrolled in vocational agriculture as freshmen, 31 per cent left school with but one year of agriculture and 32 per cent graduated with four years of agriculture. The remaining 37 per cent dropped out sometime after the completion of the freshman year and the beginning of the senior year. Of the entire group that entered as freshmen, 63 per cent are farming. 12/

The second study mentioned dealt with 185 boys in Pennsylvania who dropped out of school; 28 per cent desired to be farmers when they entered, but when they withdrew, 42 per cent chose farming. "From these facts it may be inferred that the agricultural student who fails to complete his course in high school is more likely to become a farmer than is the boy who remains in high school until graduation." 13/

Studies have been made summarizing placement in farming for the entire United States. These studies were made primarily with the purpose of discovering the status of those receiving instruction in vocational agriculture. These may be criticized because they did not bring to light sufficient evidence upon which to base a definite program of improvement in vocational agricultural department efficiency. In very few cases were placement data secured about young farmers not trained in vocational agriculture to discover the differences

12/ Bailey, L. J., "The Migration of Boys who have studied Vocational Agriculture", Agric. Educ. Magazine, Vol. 5, No. 2, August, 1932.

13/ Anderson, C. S., "Out of School Rural Youth Enter Farming", Pa. State College, Bul. No. 374, January, 1940, p. 26.

which might exist between the two groups. The same can be said for the majority of studies in the different states.

Very few studies have been discovered by this writer that deal with efficiency in vocational agriculture on the basis of placement in farming and which continue further in recommending steps for improvement. Such an investigation carried on in Missouri arrived at these conclusions, "The effectiveness of vocational agriculture is in direct proportion to the teacher's attitude toward the work, his ability as a teacher, the amount of service he renders to the community, the spirit he has toward cooperating agencies, and to some degree his experience; it is in close relationship to the attitude he has toward the instruction, the willingness with which he does required work, and the types of pupils enrolled in his class". 14/

Many studies are not applicable to conditions existing in Montana and were only valuable to this writer as a guide in determining procedure to follow. 15/

Purpose of This Study

The purpose of this study is to discover, if possible, the factors important in placement in farming of boys with training in vocational agriculture, and to recommend ways and means in which efficiency may be increased.

A survey of literature in agricultural education was undertaken with the hope that some existing data could be correlated and applied to the program

14/ De Wolf, Oscar Hall, "Factors Influencing the Results of Instruction in Vocational Agriculture in Missouri," unpublished Master's thesis, University of Missouri, Columbia, Missouri, 1923, p. 69.

15/ For a complete list of such studies with purpose, scope and recommendations obtain a revised "Summaries of Studies in Agricultural Education", Vocational Education Bulletin No. 180, Agricultural Series No. 47, U. S. Dept. of Interior, Office of Education, U. S. Government Printing Office, Washington, D. C.

in Montana.

Sources of Data

First, records in the office of the Supervisor of Vocational Agriculture in Montana were assembled and summarized to discover the status of former students of vocational agriculture in the state.

Second, three ratings were obtained on each of 30 departments in Montana. Each of these departments was evaluated on each of eleven criteria covering instruction and activity programs. These ratings were obtained from the State Supervisor of Vocational Agriculture, the Teacher Trainer, and the Assistant Supervisor of Vocational Agriculture in Montana.

Third, a study was made on each of 110 former trainees of vocational agriculture departments who are now established in farming and related occupations and of 39 former trainees engaged in unrelated occupations.

Limitations and Treatment of Data

Records in the office of the State Supervisor of Vocational Agriculture dealing with placement of former students existed on forms established by the state department of Vocational Agriculture. 16/ These record forms have been submitted to this office yearly for the past seven years, and originate with the departments of vocational agriculture in high schools throughout Montana covering graduates since installation of the department. Some reports were so incomplete as to make final summary inaccurate. Some departments have been operating for such a short period of time that no appreciable amount of placement has been obtained. Approximately 30 per cent of these reports contained some inaccuracies. Some of these mistakes were merely mathematical errors

16/ A copy of this form may be found in the appendix, page 71.

that were corrected in auditing. Since as many as 7 reports were available from one school covering the last 7 years, some mistakes were corrected by comparison. Of the 56 departments of vocational agriculture now in operation in Montana, complete summarizations of status of former students were obtained on 30.

A rating of these 30 departments was secured in order to discover what items or factors included in their programs were most influential in placement. Ratings were secured for each school on each of the following items selected as significant phases of the program of vocational agriculture:

- | | |
|--------------------------------|----------------------------------|
| 1. Shop program | 7. Department location |
| 2. Agricultural program | 8. Evening school program |
| 3. Supervised practice program | 9. Part-time school program |
| 4. Shop equipment | 10. Additional follow-up program |
| 5. Agricultural equipment | 11. F. F. A. program |
| 6. The instructor | |

Ratings were made with 100 points as a possible score and divisions were as follows:

Excellent Rating	81 - 100 per cent
Good Rating	61 - 80 per cent
Average Rating	41 - 60 per cent
Fair Rating	21 - 40 per cent
Poor Rating	1 - 20 per cent

Blanks for rating the departments were given to the three men previously mentioned along with instructions outlining considerations for each item listed. 17/ Since these ratings were independently done by qualified men having association and experience in supervision in Montana for nine years or longer, and since agreement in ratings was very close, it is assumed that the ratings are reliable.

The departments selected and used for study of the individuals having

17/ Tables II and III in the Appendix.

training in vocational agriculture were: Billings High School at Billings, Cascade High School at Cascade, Fergus County High School at Lewistown, Callatin County High School at Bozeman, and Moccasin High School at Moccasin. In addition to the case studies secured at these five schools, attendance at the annual "short course" at Montana State College provided schedules on 3 boys from the department at Missoula, 3 boys from Dutton, 3 boys from Syegate, 3 boys from Big Timber, 2 boys from Conrad and one boy from Belt. This writer secured 100 per cent of these schedules by personal interview with the young men either on their farms or in their places of business. These schedules were obtained to discover:

1. Parents' occupation, family size, farm tenure, home farm size and location, home farm ownership status, and cropping and livestock systems.
2. Farming or occupational status of the individual.
3. The individual's education and scholastic record.
4. Size, scope and ownership of the individual's supervised practice program.
5. Investment in farming upon leaving high school.
6. Occupational experience in addition to high school training.
7. Future plans in regard to farming or present occupation.
8. Difficulties encountered in getting established in farming.
9. Extent to which training in vocational agriculture provided needed abilities.
10. Need for further training. 18/

18/ A copy of the schedule used in interviewing these boys is in the Appendix, page 79.

PART II. DEPARTMENT RATING AND EFFICIENCY IN PLACEMENT

The age, size and location of the 30 departments that were rated and upon which placement schedules were obtained, give a distribution that this writer feels is representative of the entire state. 19/

The percentage of boys receiving one or more years of vocational agriculture from these departments varied greatly. The department reported most efficient in this respect has placed 94.25 per cent of its boys in farming and related occupations. The least efficient school reported a placement of only 12.5 per cent in this respect.

Placement in Farming

The average of the reports of these 30 departments in Montana gave the results shown in table II.

Of the group that is farming, approximately 27 per cent are farming as farm owners; 28 per cent are farming as renters; 7 per cent are farming as partners and the remaining 38 per cent are farming as laborers. 20/

The length of time these departments have been established, using five years as a minimum, seemed to have no effect upon the percentage of boys placed in farming or related occupations.

Because these records were requested in the past primarily to discover

19/ Chart I on page 16 gives the locations of all the departments in the state and specifies the departments that were used in the study.

20/ "Owners" include those who have full ownership of a place or are actually in the process of buying a farm. "Renters" include those who are either managing a farm or are renting more than 50 per cent of their farm land. "Partners" include those who are helping to operate a farm with a definite agreement as to percentage of income from the farm or given enterprise, available to them. "Laborers" include all those working for wages either on the home farm or other farms.

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the percentage and status of those going into farming, very little can be discovered about those going into either related or unrelated occupations.

Placement results shown in table II compare closely with similar studies made in Wyoming and Utah. Sam Hitchcock discovered that 62 per cent of former students in Wyoming were in farming or related occupations, compared with Montana's 65 per cent. 21/

Results obtained by Mark Nichols showed a placement of 55 per cent of Utah's former students of vocational agriculture in farming or related occupations 22/ as compared with 51 per cent, the national average. 23/

In order to discover what factors are most important or have the most influence in meeting the objective of placement in farming, placement was compared with ratings of the departments. Since eleven items were selected as important divisions or phases of the program of vocational agriculture, placement ratings were compared to each of these eleven items. Correlation analysis was the method used to discover the degree of relationship that existed. 24/ If the correlation between placement and any of the items is high enough to result in a significant 25/ coefficient of correlation, these items

21/ Hitchcock, Sam, "Status of Former All-Day Students" in Report of Twenty-first Pacific Region Vocational Agriculture Conference, Misc. Public. No. 2207, U. S. Dept. of Interior, Office of Education, Vocational Division, June, 1939.

22/ Report of 21st Pacific Regional Conference of Vo-Ag Leaders, p. 21.

23/ Lathrop, F. W., "Effectiveness of Vocational Education in Agriculture", F. B. For Voc. Educ., Bul. No. 82, Agric. Series No. 15, 1933, U. S. Government Printing Office, Washington, D. C.

24/ In table VII in the appendix will be found a complete description of the formula used and its source.

25/ Most mathematicians agree that in order to be highly significant the coefficient correlation must be .9 or better and in order to be significant this correlation must be .5 or better.

TABLE II.--AVERAGE PER CENT PLACEMENT OF BOYS TAKING ONE YEAR OR MORE
OF VOCATIONAL AGRICULTURE IN 30 DEPARTMENTS IN MONTANA

Total number of boys taking one year or more of Vocational Agriculture	2238
Total per cent of boys taking one or more years of Vocational Agriculture	100
Total per cent in farming and related occupations	65.54
Total per cent farming	45.70
Per cent farming as owners	12.34
Per cent farming as renters	12.86
Per cent farming as partners	3.17
Per cent farming as laborers	17.33
Total per cent in related occupations and agricultural colleges	19.84
Per cent in related occupations	14.98
Per cent in agricultural colleges	4.86
Total per cent in unrelated occupations in non-agricultural colleges	34.40
Per cent in unrelated occupations	20.57
Per cent in non-agricultural colleges	5.89

might be responsible to a degree for the placement of trainees in farming. Correlation alone is not an indication of causal relationships. The coefficients of correlation in this study showed no relationships that were significant or highly significant as can be seen in table III. The variation between coefficients of correlation is small. This would seem to indicate that the relationship to placement is similar.

Even though the correlation did not result in figures of significance, both a positive and a negative relationship with placement was indicated. Some items seem to be correlated closer to placement than others. If some way were available to discover the cumulative effect of the most influential items, more significant results might be obtained. The results obtained, however, would seem to indicate that factors most significant in placement were not included in the eleven items under which the departments were rated. It is entirely possible that the most significant factor could be opportunity for establishment of young men in farming in a given community. In addition to this, the ratings were subjective to begin with, and they dealt with activity over a period of the last ten years. During this time many of the departments have had changes in instructors. Demands of other services have removed approximately one-third of the instructors in the last ten years. When instructors from the better schools went into different fields, a general shifting took place throughout the state as the agriculture instructors moved to fill vacancies that resulted. Such results as the above were anticipated at the beginning of the study, so plans were made at that time for the study of 149 young men in an effort to discover the significant factors.

TABLE III.--THE COEFFICIENT OF CORRELATION BETWEEN RATINGS OF ELEVEN ITEMS IN THE PROGRAM OF VOCATIONAL AGRICULTURE CONSIDERED IMPORTANT AND THE PERCENTAGE OF BOYS PLACED IN FARMING AND RELATED OCCUPATIONS.

Items Rated	Coefficient of Correlation
Shop Program for past 10 years	-.13
Agricultural Program for the past 10 years	.43
Supervised Practice Program for the past 10 years	.26
Shop Equipment for past 10 years	.21
Agricultural Equipment for past 10 years	.10
Instructors for past 10 years	.32
Department Location	.14
Evening School Program for the past 10 years	.17
Part-time School Program for the past 10 years	-.21
Additional Follow-up Program for the past 10 years	.22
Future Farmers of America Program for the past 10 years	.25

Placement and the Agricultural Program

The influence of the agricultural program as indicated by the correlation of coefficient seems to be greater than the influence of other factors. This is not surprising when we know that this item has received more attention and effort toward improvement than any of the others over the ~~past~~ ten-year period. This one item has taken the greatest amount of time of the agricultural instructor and many of the other items are really supplementary to this one. The rating of the agricultural program took into consideration methods used in presenting material and subject matter, tie-up of the program with the community and the home farms, seasonal correlation of subject matter, and effectiveness of field work and carry-over of class instruction to the home farm. Even though this correlation is not significant (.26) this writer believes that the influence exerted by this item in placement is greater than the results would indicate.

Placement and the Supervised Practice Program

The item having the second highest correlation of coefficient is the supervised practice program. A high rating of the supervised practice program indicates that some of the young men in the department have excellent supervised practice programs. A student who has built up a substantial investment in farming through a growing, profitable project program, is not so likely to desert the farm for an indefinite occupation. The majority of the boys that have been able to raise funds and plan successfully for a good program in this respect also have the ability to advance into control of an entire farm. The agriculture instructor devotes the major amount of his time during the summer months to supervise these programs. The correlation in this case could indicate that the supervised practice program exerted more influence on placement than many of the other factors.

Placement and the Future Farmers of America Program

The coefficient of correlation figures rank this activity third high in comparison with the other factors. The influence of this item as indicated by the coefficient of correlation figures as compared with the other items is in line with the opinion of this writer. Since, however, the rating in this item takes into consideration the work of the organization as it has been helpful to the entire group, we can appreciate the reason for this correlation. This organization has undoubtedly developed in the minds of many young men, pride in the occupation of farming and confidence in their own ability to succeed in this occupation. It is difficult to measure the influence which the organization may have exerted in the development of farm operators. This writer feels that this activity is influential only in combination with other parts of the program of vocational agriculture.

Placement and the Vocational Agriculture Instructor

The vocational agriculture instructor, his program of following up of former students, and the kind and amount of equipment in the farm shop tie for the next place according to correlation of coefficient figures. This writer feels that the instructor's influence is much greater than these figures indicate. The part he plays in formulating plans for other parts of the program undoubtedly makes him more influential in placement than many of the other items. The instructor as a rule in Montana has been more effective in developing good programs of agricultural instruction, strong programs of supervised farm practice, and active Future Farmer chapters than he has been as a school personality that merely comes in contact with the boys. His follow-up program of counseling and giving assistance is no better or no poorer

on the average than he is. His influence on former students, once they have left school, depends upon his ability, his personality, and his character more than some of his activities, as far as this writer can determine.

Placement and Factors that Gave a Positive Correlation

There are four remaining factors that showed a positive relationship to placement in farming. The importance of equipment both in the shop and in the agricultural room is understood but their influence has been limited because they are effective only insofar as the instructor and method of use on programs connected with them are effective. Evening schools have not played a more important role in placement, probably because we have held so few in Montana and because the enrollment is largely made up of those already engaged in farming.

The correlation between department location and percentage of graduates placed in farming, is next to the lowest positive correlation. There is a definite reason for this, perhaps. The rating on location was given on the basis of the desirability of type of farming carried on in the patronage area of the department. The rating gave an idea as to type of the surrounding agricultural area. The schools that received the highest ratings were in the better farming or ranching districts while those receiving the lower ratings were in the poorer districts. Although this gave a location rating, it did not give an expression of the opportunities for a young man to enter the field of farming. Surveys of schools are not available in sufficient numbers to be used at the present time. Department location should rightly take into consideration placement possibilities. The best farming areas often present the fewest opportunities to beginners.

Placement and Factors That Gave A Negative Correlation

A negative coefficient of correlation may indicate that the item correlated with placement in farming and related occupations had more influence in guiding young men out of the field than it had in guiding them into the field. The author feels that this minus correlation developed in the case of part-time schools in this study. Part-time training developed by departments of vocational agriculture in Montana has been opened to both those interested in farming and those possessing little or no interest in farming. Since many part-time schools were built around electric and acetylene welding, automotive repair, sheet metal work, carpentry, wood turning and vocation study, as many of one group were interested and attended as the other. In addition the majority of those farm boys interested and attending were already established in farming in some capacity or another and were not credited with having been placed because of the part-time schools.

The second of the two negative correlations that developed was on the shop program. This is surprising yet when analyzed it may be accepted. Training in farm mechanics is similar to training in other mechanical fields. It includes woodwork, forging, cold metal work, motor and tractor mechanics, tool selection, conditioning and repair of farm machinery and selection and repair of tools. Proficiency in the above may be used to a good advantage in machine shops, garages, filling stations, tin shops, plumbing shops and sheet metal works. Interest in shop work of the mechanically inclined may easily divert interest toward one of the trades rather than into agriculture. Shops that are especially well equipped with modern machinery that is fairly uncommon to the farm are often better adapted to training tradesmen than to the

development of efficient farm mechanics.

SUMMARY

In summarizing results obtained on this part of the study, there are a number of conclusions that can be drawn. Of the items considered, the Agricultural Program, the Supervised Practice Program, and the Future Farmer Program seem to exert the most influence in the placement of young men enrolled in vocational agriculture into farming and related occupations in Montana. At least this has been the case these past 10 years. Other factors that may play a part are the agricultural instructor and the follow-up program he employs on former students.

The shop program followed and part-time school organization, though valuable, seemed to exert a negative influence in placing vocational agriculture students into farming and related occupations.

These correlations will be given consideration in making final recommendations for the improvement of the program of vocational agriculture in Montana.

PART III. STUDY OF 149 FORMER VOCATIONAL AGRICULTURE STUDENTS
TO DISCOVER FACTORS INFLUENTIAL IN PLACEMENT

Results obtained through this study have been divided into 6 general headings: (1) personal information; (2) home background; (3) residence, summer occupation and supervised practice program while attending high school; (4) present occupation and desire for further education; (5) evaluation of the present program of vocational agriculture; and (6) problems confronted.

The personal information secured can best be summarized in chart form. Before the information was put in chart form, the group was divided into six divisions and percentages and numbers were averaged.

The distribution of individuals into various occupations is similar to the average of the state as a whole. This would indicate that the sample was representative of the state.

Personal Information

The average age of those engaged in farming as owners is 26.75 years. This seems low. Since vocational agriculture has been taught in Montana for only a little over 20 years, the oldest farm owners who have received such training are less than 40 years of age.

No significant difference is evident in education, with one exception. Those engaged in farming or related occupations have had an average of 3.2 years of training in vocational agriculture, while those in both related and unrelated occupations have had an average of 1.53 years of training in vocational agriculture. The first group has had twice as much training in the subject of vocational agriculture as the second group.

TABLE IV.--PERSONAL INFORMATION CONCERNING 149 YOUNG MEN OF THIS STUDY

Item	Farm Owners	Farm Renters	Farm Partners	Farm Laborers	Related Occup.a/	Unrel.b/ Occup.
Total Number	19	18	25	32	16	39
Mont. Avg. Pct. Plc.c/	12.25	12	4	17	19.5	34.5
Per cent Plcm. of 149 Ind. Studied	12.75	12	16.75	21.5	11	26
Avg. age in yrs.	26.75	24	21.35	21.33	21.5	21.5
Avg. yrs. H.S.T. d/	3.84	3.33	3.33	3.5	3.25	3.09
Avg. yrs. Voc. T. e/	3.25	3.33	3.0	3.25	2.5	1.08
Avg. yrs in Agr. P.T.S. f/	.52	.22	.32	.26	.57	.12
Avg. yrs. in Agr. Evening School	.06	.06	.07	.03	.06	.05
Avg. yrs in Short Course	---	.11	.14	.23	.06	---
Avg. yrs in College	.11	---	---	---	.06	.10

- a/ Occup. stands for occupation
b/ Unrel. stands for unrelated
c/ Plc. stands for placement
d/ H.S.T. stands for High School training
e/ Voc. T. stands for vocational training
f/ P.T.S. stands for part-time school

Home Background of These Former Vocational Agriculture Students

The background was studied on a number of points in an attempt to discover the influence of home and parents on selection of an occupation. The summarization of these data is given in table V.

The average size of the family in this study shows but slight variation between the various employment groups. With these figures, we can say as far as this group is concerned the average size of the family and the average number still at home has had no appreciable effect upon the choice of any of the occupational groups considered.

There is a great variation in tenure on the home place among the groups. The parents of the 19 men now farming as owners have spent, on the average, 21 years on the present farm, while the average time spent by the parents of the 39 men now engaged in unrelated occupations is but 5 years. According to the data presented in table V, it appears the more stable has been the tenure on the home farm, the better chance a young man from that farm has of developing into a farm owner operator. Those farming as partners under definite agreement at the present time are from families that have spent, on the average, 17 years on the home place. Those now farming as renters are from farms that have been in possession of their families on the average of 11 years. Those engaged in actual farming operations are from families whose average time spent on the home farm was 15-1/2 years; while those in both related and unrelated occupations are from families that have spent but 7 years on the present home farm. From these data it would appear that ownership and tenure status of parents on the home farm has been influential in placement of a young man in farming as a vocation.

TABLE V.---HOME BACKGROUND OF 149 FORMER VOCATIONAL AGRICULTURE STUDENTS AS RELATED TO OCCUPATIONAL STATUS

Item	Farm Owners	Farm Renters	Farm Partners	Farm Laborers	Related Occup. ^{b/}	Unrel. ^{a/} Occup.
Total Number	19	18	25	32	16	39
Avg. no. in family	4.6	5.5	5.4	4.6	5.1	4.6
Avg. no. still at home	3.6	4.2	3.0	2.4	3.1	2.4
Avg. yrs. tenure on present farm	21	11	17	13	9	5
Avg. acres owned on home farm	911	204	847	319	80	40
Avg. acres rented on home farm	213	769	319	126	148	87
Total avg. acres on home farm	1124	973	1166	445	228	127
Occupation of parents in pct.						
Farmers	100	94	93	84	45	26
Related Occup.	---	6	7	16	39	42
Unrelated Occup.	---	---	---	---	16	32
Enterprises on home farm in pct.						
Single cash enterprise	16	32	12	19	---	---
Two or more cash enterprises ^{c/}	84	68	88	81	---	---

^{a/} Unrel. stands for unrelated

^{b/} Occup. stands for occupation

^{c/} A single cash enterprise refers to a farm that derives the largest share of its income from one cash crop or livestock enterprise. Two or more cash enterprises means a farm where the majority of the cash income is derived from two or more cash crops with additional diversification in the way of supplementary or minor crop and livestock enterprises.

The amount of land owned and the amount rented on the home farm seems to help decide in part whether a young man will farm at least in the beginning as an owner, renter, partner or laborer. Those farming now as owners and as partners are from home farms having the greatest average owned acres in the aggregate. This seems logical since large acreages of owned land by a family should imply that the chance of farm division in the case of ownership or enterprise division in the case of a father and son partnership is greater than when but small acreages make up the home farm.

Those men now farming as renters are from families that rented on the average of 769 acres of the total farm that they controlled. This figure is the largest average acres rented by any one group and would imply that the men renting have followed rather closely the practices in operation on the home farm as far as ownership is concerned. Farm laborers are from farms having not only the smallest average aggregate acres but also the least owned acres. This would seem to indicate that boys raised on small units were forced off of the home farms by necessity of supporting themselves and accepted jobs in the field in which they had the most experience and training. Those in both related and unrelated occupations were from the smallest average sized farms. The former were from farms with an average total acreage of 228 acres and the latter from farms of an average of 127 acres.

The summary of the results of data pertaining to occupation of the parents in table V shows clearly the effect of this factor on occupational choice. Of the 19 in group farming as owners, 100 per cent were from farms operated by their parents. Ninety-four per cent of the parents of those now farming as renters were farming and 6 per cent were in related occupations. Of those

farming as partners, 93 per cent of the parents were farming and 7 per cent were in related occupations. Parents of farm laborers were found to be farming to the extent of 84 per cent and in related occupations to the extent of 16 per cent.

When we turn to the groups in related and unrelated occupations, we find an entirely different picture. The parents of those in related occupations divide themselves as follows: 45 per cent in farming, 39 per cent in related occupations and 16 per cent in unrelated occupations; while of the parents of those in unrelated occupations, 26 per cent are farming, 42 per cent are in related occupations, and 32 per cent are in unrelated occupations.

Kinds of enterprises existing on the home farm did not vary with changes in occupational choice. Home farms that were rented depended more on a single cash crop than farms that were owned. Wheat is the most common cash crop raised.

Of the factors considered under the heading "Home Background of These 149 Former Vocational Agriculture Students", the following seem to have been most influential in placement: occupation of parents, ownership status on the home place, and tenure on the home place. The size of the family now living at home and type of agriculture practiced on the home farm seem to have little or no influence on the occupational status of these 149 young men.

Findings that resulted from this division of the second part of the study will be duly considered in developing recommendations further on.

Residence, Summer Occupation, and Supervised Practice Program
Carried While Attending High School

This division of the study deals primarily with environment, job experience,

TABLE VI.--RESIDENCE AND OCCUPATION OF 149 MEN BY OCCUPATIONAL GROUPING WHILE ATTENDING HIGH SCHOOL

Residence & Occupations while in H.S.	Farm Owners	Farm Renters	Farm Partners	Farm Laborers	Related Occup.	Unrel. Occup.
Total Number	19	19	25	32	16	39
Residence						
With own family on home farm	12	10	14	16	6	9
With own family in town	3	5	4	4	2	25
Not with own family on farm	1	---	---	3	---	1
Not with own family in town	3	3	7	9	8	4
Occupation						
On H. F. with definite allowance ^{a/}	4	4	5	3	1	2
Not on H. F. with definite allowance	13	12	10	18	5	7
On farm other than home farm	1	2	3	5	2	3
In town	1	---	1	6	8	27

^{a/} H. F. stands for home farm

and activity in developing a supervised practice program during the secondary school age. Data on residence and summer occupation are summarized in table VI.

Residence while attending high school varies only with changes in the parents' occupational residence. During the period that boys are in high school those raised in town are more apt to work in the country than are those raised in the country or working in town. The group raised on smaller farms are more apt to work away from home in the summer time than those raised on larger farms. The big majority of farm raised boys worked at home during the summer without a definite allowance. Of the entire group, 47 per cent worked on the home farm with an indefinite allowance; 13 per cent worked on the home farm with a definite allowance; 11 per cent worked on farms other than the home farm, and 29 per cent worked in town.

Neither the residence nor summer occupation seemed to have any effect upon placement in farming in addition to that expressed by background.

The supervised practice program carried by these individuals varied greatly in size, scope, and general rating. A complete summary of data gathered is shown in table VII. The men engaged in actual farming carried projects in high school that were superior to those carried by men now engaged in either related or unrelated occupations. Rating of the projects carried by those within the farming occupation discloses that 88 per cent of the high school projects carried by present farm owners rated average or better; that 68 per cent of the high school projects of present farm partners rated as average or better; that 61 per cent of the high school projects of present farm renters rated as average or better, and that 50 per cent of the high school projects

TABLE VII.--SUPERVISED PRACTICE PROGRAM OF THE 149 MEN
WHILE ATTENDING HIGH SCHOOL ^{a/}

Rating, Investment and Ownership	Farm Owners		Farm Renters		Farm Partners		Farm Laborers		Related Occup.		Unrel. Occup.	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Total	19	100	18	100	25	100	32	100	16	100	39	100
Supervised Prac- tice Program:												
Excellent	6	31	2	11	6	24	5	16	2	12	2	5
Good	8	42	4	22	6	24	3	9	3	19	5	13
Average	3	15	5	28	5	20	8	25	2	13	6	15
Fair	1	6	4	22	4	16	6	19	5	31	9	23
Poor	1	6	3	17	4	16	10	31	4	25	17	44
Avg. Invest. in F. on leaving H.S. ^{b/}	\$416.38		\$301.21		\$429.57		\$103.00		\$ 67.07		\$ 28.32	
Pct. Ownership in Supv. Pract. Prog.	82		62		78		44		36		33	

^{a/} A rating of the program of supervised practice program was made on the following basis. A program that met minimum state requirements as to scope and in addition progressively enlarged in scope and inclusion of supplementary crops and livestock enterprises, and that that was self owned and financially profitable was classed as an excellent supervised practice program. One that met minimum state requirements as to scope and in addition progressively enlarged in scope and the inclusion of supplementary crops and livestock enterprises and was financially profitable was rated as good. Supervised practice programs that met minimum state requirements were classed as fair. Supervised practice programs that did not meet the minimum state requirements or the requirements of any of the above were graded as poor.

^{b/} Avg. Invest. in F. on leaving H.S. stands for average investment in farming on leaving high school.

of farm laborers rated as average or better. In the case of those engaged in related occupations, 44 per cent of high school projects rated as average or better while those in unrelated occupations had 33 per cent of their projects in the average or better class. Farm owners had only 6 per cent of their high school projects in the poor class. Those engaged in unrelated occupations carried supervised practice programs that rated in the poor class 44 per cent of the time.

The size, scope, and success of the supervised practice program undoubtedly depends on a number of factors including the home farm, the attitude of the parents toward this type of activity, the ambitions of the boy and the persistence and enthusiasm of the agricultural instructor. Nevertheless, those ultimately placed in farming carried the best programs in high school, so we can give weight to the influence of the supervised practice program in placing boys in farming.

An excellent program of supervised farming practice does not always result in a large investment in farm land, equipment, seed, livestock, or supplies upon graduation from high school. The net proceeds may have been diverted into a fund for further education, into a savings account, or they may have been spent to finance present education or for the support of the family. However, in the case of those 149 men studied, those engaged in farming had an average investment in farming upon leaving school of \$312.69, while those in related and unrelated occupations developed an average investment of \$44.19 upon leaving school. The low average investment of the second group can partially be accounted for by the fact that many of the men in this group accumulated nothing through their supervised practice programs.

Ownership in supervised practice program was presented in table VII as an average figure. A 78 per cent ownership figure indicated that the boys had an average ownership interest in the supervised practice program of 78 per cent or that as an average, 78 boys out of 100 owned 100 per cent of their supervised practice programs. Ownership was often indicated by the share of net returns going to the boy from the enterprise or combination of enterprises. The ownership figures followed very closely the investment in farming figures. Such a correlation would indicate that the incentive and possibility accumulating or productively investing accumulated capital increased as the percentage of ownership increased. Projects carried merely to meet the requirements of the course in vocational agriculture stand a poorer chance of making a profit than those developed with the idea of making some money or "growing into farming". Larger returns from self-owned projects may have resulted from more interest, consequently more careful planning and accuracy in managerial activities. Ownership seems to be one of the factors that influences the degree of success in the supervised practice program and the supervised practice program in turn affects placement in farming.

Present Occupation and Desire for Further Education

Charts 4 to 7 have included the grouping of these 149 men by occupation into six groups, namely, farm owners, farm renters, farm partners, farm laborers, those engaged in related occupations, and those engaged in unrelated occupations. The percentage distribution of these men into the groups is very similar to the Montana average obtained in the first part of this study.

A great variation existed as to the major types of enterprises adopted by this group. The group in farming showed a tendency toward selecting enterprises

similar to those on the home farm. If the enterprise selected in the supervised practice program was one adapted to the community and the home farm and if the young man became located in the community upon leaving high school, there was a good chance that the project would develop into the major enterprise on the newly acquired farm. If the project was selected by the boy to supplement some of the major enterprises on the home farm, the chance of this supplementary enterprise becoming the major enterprise on the boy's own farming unit later on was poorer than the chance of this enterprise becoming again an enterprise supplementary to the major enterprise of the community. Enterprises selected as supervised practice programs that were not adapted to the community or did not fit into the farming plans of the home farm were the enterprises carried over the shortest period of time. It was with enterprises of this kind that the greatest amount of change occurred. The 94 men out of the total of 149 that are on farms at the present time are farming fewer acres at present than are being utilized on the home farm. This was especially true of those farming as owners. Since history of successful farmers in Montana shows that the home farm acreage is built up by successive additions of area units, this can be understood. The beginners in the field of farming and especially the renters are at present producing a higher percentage of cash crops than is produced on the home place. Sixty-four per cent of these men are farming in the communities in which they were raised which would seem to indicate that their best chance of getting into farming lies close to home.

Reasons given for entering the present occupations were numerous. The bulk of the reasons, however, fell into two divisions. Thirty-four per cent gave the reason that they were in the occupation because they liked the work

or living conditions. Forty-one per cent gave the reason that the opportunity presented itself and they had no other choice. The remaining 25 per cent had entered the occupation for various reasons. Some because they had inherited a place, some more because they were fitted for nothing else, others because of parental request and still others because they could or could not stand to work inside or because the occupation paid a salary.

All those engaged in related and unrelated occupations had made attempts to find work and were successful in obtaining the same. Thirty-one per cent of this same group would like to farm if they could get the "right kind" of a place or if they had a place. The majority of this group were working for wages because wages provided at least a steady income and a certain amount of security. Chances for advancement were good in 17 per cent of these cases; fair in 53 per cent of the cases; and poor in 30 per cent of the cases. A summarization of the types of jobs held indicated no definite trend as to type of occupation chosen. It was evident that these men took jobs that were available and advanced because of ability to fit themselves to this particular job. Those engaged in farming had attempted in 23 per cent of the cases to find work before and during their choice of farming. The attempts seemed to be another half-hearted venture with no special activity in preparation for a definite position. Sixty-eight per cent had experience in working at odd or short period jobs on farms other than the home farm. Farming in some cases was accepted as the last resort and was looked upon as merely a temporary occupation pending developments in other fields. The majority of those in farming at the present time would quit farming if they could find a permanent "well paid" job. Security and returns in proportion to effort seem

to be the hope of many of those entering farming.

The data pertaining to desire and opportunity for further education are summarized in table VIII. Both desires and opportunities to further their education were similar among the occupational groups. Of the total number of 149, 49 wished to attend college while only 37 of the entire group had the opportunity and funds. I feel the results of the questionnaire rather doubtful in this case for the reason that very little college attendance resulted even with a total of 37 opportunities out of 149. The peculiar observation was that those who wished to attend could not and those that had the opportunity and funds did not wish to attend.

Former Student Evaluation of the Present Program Of
Vocational Agriculture

In an attempt to discover weaknesses and strong points of the program as observed by these one-time participants, questions were asked to bring out parts of the course that were most and those that were least helpful. In addition, a question was asked to determine what additional training or information these men desire.

As a rule, those studies dealing with enterprises now being operated by the individual were considered most helpful. For example, a young man operating a dairy cattle and hog combination farm at the present time in Fergus County, felt that the study of livestock enterprises and particularly the hay and dairy enterprises were most valuable to him. Another young man in this same county, who graduated from the same high school the same year, and who is now wheat farming in the same community, felt that the study of the crop enterprises and especially wheat was most valuable to him. Those who are conducting operations which involve the use of a great deal of machinery all mentioned

TABLE VIII.--DESIRE AND OPPORTUNITY FOR THE 149 MEN TO ATTEND COLLEGE ACCORDING TO OCCUPATIONAL GROUPING

Desire and Oppor. to attend College	Farm Owners	Farm Renters	Farm Partners	Farm Laborers	Related Occup.	Unrel. Occup.
Total	19	18	25	32	16	39
Desire to attend College upon grad. from High School	6	7	8	7	6	15
No desire	13	11	17	25	10	24
Opportunity to attend college upon grad. from high school	8	3	7	6	4	9
No opportunity	10	16	18	26	12	30

the farm shop program as one of the most helpful units of instruction. In general, in irrigated sections, livestock enterprises and the study of irrigated cash and feed crops were considered as the most valuable parts of the course of instruction. In dry-land wheat sections, the study of dry-land crop production and the farm shop seemed to be considered most valuable.

Factual material of a nature that made its retention difficult, though often listed as important, was listed as of doubtful value. Upon further questioning many of the men felt that the ability to find the needed information in references, in libraries, or by inquiring at the right source was more important than partial memorization. The reason given was that correct procedures in obtaining desired information facilitated the possibility of improvement in knowledge in almost an unlimited field. Units of study that provided experience and practice in lifelike situations received more favor than activities limited to the classroom. Nine men engaged in farming listed suggestions and advice given by the agricultural instructor as being very helpful in solving some of the problems encountered in getting into farming.

The group that is now employed in related and unrelated occupations seemed to prefer units that have proven useful in their present occupation. Those of this group in mechanical trades like garage mechanics, filling station operators, plumbers and carpenters stressed the farm shop program as being most useful to them.

Three men working in elevators felt that livestock feeding, livestock rations and grain grading had been most helpful. A tire salesman indicated that he had made most use of a unit on the study of farm machinery. A salesman for a typewriter concern felt that keeping of project records made him better

able to keep his accounts and sales straight. Three clerks in small town grocery stores checked marketing, project record keeping and livestock nutrition as being important. In the majority of cases, units were checked as valuable when use was made of the skills acquired, the practices recommended, or the information presented.

In answer to the question, "What parts of your course have been least helpful?" conclusions similar to the above may be drawn. The study of unadapted enterprises, unusable skills, and inapplicable practices has been of little value, according to the group studied.

The study of livestock enterprises though admitted to be interesting was listed as being least helpful to those engaged in strictly crop farming. Judging activities both in the field of crops and the field of livestock were rated as very interesting but only in five cases out of 149 were they listed as the most helpful. Again, possibilities of application seemed to be the factor that decided that the study of a certain unit was least helpful to the individual.

Without a doubt, the biggest problem confronting all these men is one of security;---"What can I do that will net me a steady income and provide possibilities for advancement?" Those who are farming discovered that one of their biggest problems was getting possession of a farm that provided possibilities of making a living. Under this large problem many closely related ones developed, such as financing, purchase of equipment, restocking, building, and managerial problems in planning livestock and cropping systems which would result in a living income plus a cash income to meet payments on the interest and principal and specific problems of farming characteristic to a given place

or community. Most help in solving the problems seemed to come from the individual's parents. The parents seemed most often to be able to help in either buying or renting a whole or part of the place. Experience and training were listed as important factors in helping to meet the problems that arose.

Of those not farming, "finding and holding a job" was given as the big problem. The general procedure followed was to take whatever job was available at the time and then continue to look for a better one. The problem of fitting themselves for a specific job, though mentioned, was not considered the most important. Further discussion with the individuals interviewed brought forth the outlook that preparation for a position which did not exist was rather a hopeless task. This group seemed interested in learning more about the job in which they were employed in hopes that it would develop into something better.

The group in farming wished to understand more clearly - first, purpose and operation of governmental agencies concentrating on the improvement of the situation of the farmer; second, farm management and marketing; and third, more information and skill in operating a specific farm enterprise.

Summary

In summarizing results in this, the second, part of the study, a number of conclusions may be drawn.

1. Variation in ages between farm laborers, farm partners and farm owners would indicate that these men receiving training in vocational agriculture have been using the "farm ladder method of getting into farming".

2. No significant difference in training is evident among the various occupational groups with one exception. Those actually engaged in farming have received an average of 3.2 years of training in vocational agriculture, while

those in related and unrelated occupations have received an average of 1.53 years of training in vocational agriculture.

3. Men from farms that have the highest percentage of owned land are more apt to farm than those from farms where ownership status is lower.

4. Long tenure of the parents is more inductive to placing the boys of the family in farming than a short period of tenure.

5. The number in the family and the number still at home seem to have little effect on the choice of farming as an occupation.

6. Residence while attending high school seems to have little or no effect on the choice of farming as an occupation.

7. The type of occupation during the summer, though variable between the groups seemed to exert little or no influence on placement.

8. Future occupation could be predicted to a degree by consideration of the rating of the supervised practice program.

9. The type of farming practiced by an individual was influenced to a great extent by the type of farming practiced on the home farm and to a lesser extent by his supervised practice program in high school.

10. Present occupation of these individuals has been influenced by the occupation of the parents, opportunity, interest, and experience.

11. The greatest problem encountered in getting into farming was one of financing the purchase of a farm.

12. Units of courses in vocational agriculture discovered to be most helpful are those that are adapted and employable to the present farm or occupation.

13. Units of courses in vocational agriculture listed as least useful are those unadapted in applicable divisions.

14. Most of these men are interested in learning ways of improving their security.

PAK IV. RECOMMENDATIONS FOR IMPROVEMENT OF THE EFFICIENCY
IN THE VOCATIONAL AGRICULTURE DEPARTMENT OF MONTANA
IN PLACEMENT OF YOUTH INTERESTED IN FARMING

Introduction

This study of 30 vocational agriculture departments in the high schools of Montana and the individual studies of the 149 men who had received one or more years of training in vocational agriculture were carried out with one main purpose in mind. That purpose was to discover what factors were influential in placement of men in farming. This part of the study will use these factors as a basis for recommending changes and improvements in our present program. Information gained from the entire study, personal experience in the field of vocational agriculture, and successful experiences of other men in the field, together with considerations and recommendations of similar studies, will be employed in making recommendations and suggesting methods of procedure.

The preceding analysis has indicated a number of factors of importance in a course of vocational agriculture. Not all of these factors are receiving our attention. Emphasis on unimportant course parts may have resulted from lack of research or results.

Selection of Teachers of Vocational Agriculture

Since the activity of the teacher in developing sound programs of instruction, profitable programs of supervised farm practice, and active Future Farmer chapters plays a large part in training future farm operators, his selection is important. As an influential factor in placement he cannot be overlooked.

Careful selection implies that a criterion for selection must be set up in order to choose teachers who will be successful in training future prospective farmers. Experience in supervising the practice work of future agriculture

instructors has permitted me to make one observation. Success in practice teaching activity at least forecasts a certain amount of success as a full-fledged teacher of vocational agriculture. For confirmation of this statement and further recommendations in setting up selection criteria, this writer will have to rely upon other investigations.

C. S. Anderson in a study of vocational agriculture instructors in Pennsylvania concluded, among other things, that students presenting themselves as trainees in agricultural education are likely to become successful as these conditions are fulfilled: 26/

1. When they are farm reared and spend their summers during their college years on the farms.
2. When they make early and settled decisions concerning teacher preparation.
3. When they are at least average and preferably above average in intelligence.
4. When their scholastic achievements expressed in terms of grades are above average.

Selection of college men for preparation to teach vocational agriculture usually takes place at the end of the sophomore or beginning of the junior year in college. By this time information concerning their background, interest in the teaching profession, something about their intelligence and their scholastic achievements may be secured and should be utilized in guiding candidates into or out of the profession.

S. S. Sutherland conducted a study of California teachers in an effort to

26/ Anderson, C. S., "Predicting Teacher Success in Agriculture", Agric. Education Magazine, Vol. VIII, Aug. 1935, pp. 28-29.

answer this question - "What information regarding a candidate will enable us to look into the future and predict how successful this man will be as a teacher of vocational agriculture?" ^{27/} His conclusions were "if we pick teachers with high scholastic records in college subjects ... dealing mostly with technical agriculture the chances are three to one that we will get a superior teacher. The man who made low grades during these years has a little less than a fifty-fifty chance of making good." According to this same study, active participation in extra-curricular activities was significant in the development of superior teachers in California. The assumption was that success in these activities helped to develop a personality desirable in a teacher of vocational agriculture.

According to Harvey Morgan Love ^{28/} those qualities which showed some definite correlation with rank of the department of agriculture in which a student taught later were reliability, belief in the profession, affability, promptness, vision and industriousness. "Criteria of greatest value in prophesying success were, rank at the end of teacher training by the staff, and average quality credits in practice teaching." ^{29/}

Selection has been made difficult at times in the past for two reasons. First, the rapid increase in the number of departments in the United States has led to a shortage of teachers at various times. Selection cannot be rigidly followed in times of teacher shortage. Second, development of governmental agencies connected with agriculture has drawn heavily upon teachers of vocational

^{27/} Sutherland, S. S., "Can We Predict Teaching Success", *Agricultural Education Magazine*, Vol. X, Aug. 1937, pp. 35-38.

^{28/} Love, Harvey Morgan, "Qualifications for Success in Teaching Agriculture", Thesis, M. S., 1932, Virginia Polytechnic Institute, Blacksburg, Va.

^{29/} Ibid.

agriculture to fill positions in their ranks. A decrease in enrollment in agricultural colleges for a short period after 1932 affected the number of enrollees in teacher training for a short period of time.

The key position held by an instructor of vocational agriculture in shaping the program makes careful selection imperative. If the program of vocational agriculture is to be increased in efficiency, the most vital point for improving effectiveness is in selection of the teachers. Improvements in other points of the program will undoubtedly help, but the degree to which they become effective will depend upon the instructor.

Selection of Students for Training in Vocational Agriculture

The influence of a man's background on ultimate selection of an occupation as indicated by this study, stressed the effect of parents' occupation. One of the most influential factors in guiding a boy into farming has been experience and association with the occupation of his parents. Conclusions drawn from data gathered were: Present occupation of these individuals has been greatly influenced by the occupation of the parents, opportunity, interest and experience; men from farms having the highest percentage of owned land are more apt to farm than those from farms where ownership status is low and long tenure of the parents is more inductive to placing the boys of the family in farming, than a short tenure period.

Briefly, the departments of vocational agriculture of Montana should strive to get boys into their classes that are sincerely interested in farming and that are from farm homes. Young men from well-established families that have a high percentage of ownership in the land that they are farming stand a better chance of utilizing training in this course than young men from other types

of families. Results obtained through training of town boys have not justified time spent when placement in farming is used as a measure of efficiency. The reference made to ownership status may seem to imply acceptance only of those from farms of high ownership percentage. This implication was not meant. All those boys from farm homes, according to this survey will stand a better chance of making use of training in vocational agriculture than city reared boys.

Farm boys in the patronage area of the school should be familiarized with the department of vocational agriculture. They should understand that the course is one that has been designed primarily for farm boys; that training in the course will fit them better for farming than for any other occupation and that they will be encouraged to put into actual practice as much as possible the things they learn. Experience has led this writer to conclude that the best methods of getting this information to the farm boys of a community are as follows:

1. Personal visits to the farm homes of prospective students at which time the program is explained to both the student and his parents.
2. Open-house days in the vocational agriculture department when all interested 7th and 8th grade boys are invited into the school to observe activity and learn of the objectives and program of the department.
3. Programs presented at community club meetings provide many opportunities for further extension of information concerning the course in vocational agriculture.
4. Department of vocational agriculture exhibits at community and state fairs would be more effective in this respect if placed on an educational rather

than competitive basis.

5. Open the first year's course in vocational agriculture to all those interested by making the first year's work one of orientation and adaptation.

Many boys are interested in enrolling in vocational agriculture because of an interest either in the subject of agriculture or an interest in the type of activity carried on in the agricultural course. Interest in Future Farmer activity, livestock selection practice, development of a supervised practice program or the farm shop program may be factors that influence individuals in selection of the course in vocational agriculture.

If the first year's course is a general course in agriculture that provides a background for future work; gives experience in a wide variety of simple farming skills, and helps a young man to determine, first, the sincerity of his interest in agriculture, and second, the type of farming he wishes to concentrate on in building his supervised practice program, many boys could profit from the first year's experience. The largest number of dropouts from the vocational agriculture course may be expected at the end of the first year if this is done. The dropouts during the remaining years, however, stand a chance of being decreased by this method. Dropouts between the freshman and sophomore year may be preferred by the instructor to dropouts later on in the course. The instructor will, at the end of this first year's general course, help the boys to decide on the basis of this one year's experience.

These methods outlined above should be carried out with but a single objective in mind; namely, to educate prospective students and parents with the possibilities and limitations of a course in vocational agriculture in order to select students who will benefit from such training.

The second way, and possibly the one that can be most commonly used in this state, deals with actual registration of students in the course. Many school principals or superintendents in the high schools of Montana today request that a student confer with the agriculture instructor before he is allowed to enroll for the agriculture course. A general acceptance of this practice throughout Montana would undoubtedly give the agriculture instructor more opportunity to exercise selection in obtaining boys that would really benefit from the course. Often school administrators in the past have been accused of "dumping" students into agricultural classes when they failed to make passing marks in other classes. This practice was not confined to small high schools alone. At the present time very few agricultural instructors in this state complain of such practice. The agriculture classes should never be used as a "dumping ground". Raising of accomplishment standards seems to be the best method of improving this situation.

During a pre-registration conference with the prospective student, a brief but complete record of background in farming, parents' occupation, interests, and facilities for carrying on a supervised practice program should be obtained. This information could immediately be put into use in encouraging or discouraging the particular student in enrolling in vocational agriculture. In small rural high schools in Montana where vocational agriculture is a required subject for all freshmen boys, naturally this second method could not be put into use. The general course for the first year appears to better meet the needs of all the boys of the freshman class in small high schools. Undoubtedly additional methods of exercising selection exist that are especially adapted to definite localities and states that may be utilized.

A number of Montana high schools have at present a guidance personnel. The agriculture instructor should make use of this service in securing curriculum adjustments for individuals. Cooperation between these two departments is urged. Poor guidance is worth less than no guidance at all in selecting an occupation or profession. The agriculture instructor should make use of all agencies available in an effort to help young men sent to him to find an occupation most suited to them.

Improvements in Methods of Teaching, Selection of Subject Matter,
and Teaching Activities in Vocational Agriculture

One of the first considerations in selection of subject matter is adaptation of course content to the community. Since the majority of former students who are farming are located in the community in which they were raised and since they have selected enterprises that in general are adapted to the home community and to the home farm, careful selection of course content is very important.

Careful adaptation necessitates a survey of the community to determine just what enterprises are important. In some counties in Montana, like Teton, detailed surveys have been carried out by various agencies which are more complete and comprehensive than any that could be carried out by the vocational agriculture teacher. ^{30/}

Wherever these surveys or studies are available, they should undoubtedly

^{30/} Teton County Planning Committee, "An Agricultural Policy for Teton County, Montana", Mimeographed, 54 pp., July 1939. Land Use Planning Committee, Teton County, Montana.

Additional information may be secured from the Extension Service, The Experiment Station, and the Bureau of Agricultural Economics. These agencies have completed surveys on Montana agriculture on the basis of material from census reports, Agricultural Adjustment Administration, and Farm Security Administration files.

be used as not only a guide in determining course content but also as a reference throughout the course in deciding practices and recommendations to follow.

In counties where these studies have not been made, the survey by the agricultural instructor may be made on a representative sample area rather than the entire county to decrease labor involved in securing a complete community enumeration. The content of this survey will be enlarged as recommendations develop. As far as this section is concerned, points essential for improvement of the teaching programs through a community survey are basically as follows: 31/

1. Development of a list of recommended adapted enterprises.
2. Rating of these enterprises as to their importance in the community.
3. Development of a list of recommended farming practices.
4. Possibilities for the development of new adapted enterprises.

The results obtained should then be utilized in determining course content and enterprise stress.

Improvement in methods of teaching can best be carried out by seasonal correlation of enterprise study wherever possible, development of true-to-life situations and experiences in teaching practice and inclusion of the economics of farming and farm management to the extent that the age and development of the high school permits. By seasonal correlation of enterprise study is meant

31/ Material available through completion of home farm surveys by boys enrolled in the classes may prove valuable in completing this survey. Refer to:

R. H. Palmer, "The Long-Time Planning Program", 15 pp., Department of Agricultural Education mimeographed circular, Montana State College, Bozeman, Montana, July, 1937.

R. H. Palmer, "Four-Year Farm Planning Program", 13 pp., Department of Agricultural Education mimeographed circular, Montana State College, Bozeman, Montana, June, 1938.

the study of enterprises during the season or period of the year when major jobs under the enterprise are carried out. Naturally, many summer practices will have to be studied and developed in the winter because of school vacations. The reason for making this recommendation is that the study of an enterprise division during the period when it commonly occurs provides opportunity for correlating classroom problems and recommendations with actual field problems and practices in operation. Retention and application of knowledge has depended upon interest and experience. Interest and experience may both be developed through actual application of knowledge to existing problems. Too frequently in the past teachers have provided the information and recommendations and trusted the application of the same to take care of itself. I feel that the greatest improvement in teaching method may be accomplished by the development of actual field and classroom problems that demand fundamental knowledge for solution. Farming is by nature an occupation that demands much in field skills. These skills often do not lend themselves to proficient acquisition in the classroom.

A farmer may rate high in the ability to extract large yields from an acre of land, or produce more than the average pounds of beef per section but unless he is efficient in organization, managing and marketing he cannot succeed.

Methods of organizing the farm business, managerial practices and marketing methods selected on a successful farm result from correct interpretation of economic conditions. A thorough course in farm economics would be extremely difficult to teach to high school boys in a manner that would result in application. Courses in vocational agriculture should include, in addition to

enterprise study, instruction in farm management and organization. These divisions can be taught if the situations encountered are familiar to the boy. Management studies and reorganization on the basis of the home farm brings theory in economics into play in a situation that is understood. For boys of high school age, outside influences of foreign trade, reciprocal trade agreements, surpluses, changing demands and governmental action is most easily understood when these influences can be traced directly to the home farms. Former students indicated that they wished they knew more about governmental programs. Experience in both high school and part-time school teaching prompts this writer to recommend that the study of governmental programs, reasons for establishment of the same and possible results can best be taught and appreciated in the part-time school classes.

Development of worthwhile teaching activities on the home farms offers some problems. It is very difficult for those farm boys who spend the school year in town, possibly because of the long distance they live from school, to use their home farm in connection with class work throughout the year. Even the most generous and patient of farmers that permit vocational agriculture classes to use their livestock herds in selection; their implements and power in cultivation, their land for crops and their buildings as laboratories, cannot be expected to indefinitely continue to do so. A few departments of vocational agriculture in this country have developed a solution to this problem. They have obtained farms of their own on which to organize a program of farming, develop enterprises in livestock and crop production and in general have put to use many practices and recommended procedures developed in the classroom. These farms have not been experimental farms operated with the idea of developing

new methods in livestock or crop management. They have been "practice farms" operated as efficiently as possible with the idea of providing experience and training for boys in classes of vocational agriculture.

Results of Stanley Balloun of Sibley, Iowa, ^{32/} Earl Martin of Pratt, Kansas ^{33/}, H. L. Lowman of Polson, Montana ^{34/} justify this recommendation as a device for improving our program of vocational agriculture. Securing such practice units presents many problems in financing, operating, and developing. These problems naturally vary with the community and will have to be solved by the individual instructor, his principal, and his school board. Experience of the afore-mentioned departments shows the task to be one that can be accomplished.

Improvement of the Supervised Practice Program

"The primary difference between supervised farming programs of yesterday and today is that we are doing today what we talked about ten years ago. Today's performance is in terms of yesterday's objectives." ^{35/} It is with the objective of improving the program of the future that recommendations are developed. Two desirable traits stand behind all recommendations: projects

^{32/} Balloun, Stanley L., "Using a School Farm in Teaching", Agricultural Education Magazine, Vol. II, No. 10, p. 189, April, 1939.

^{33/} Martin, Earl, "Group Farming Program", Agricultural Education Magazine, Vol. II, No. 8, p. 150, Feb., 1939.

^{34/} Lowman, H. L., "Polson Vocational Agriculture Practice Farm", Montana Vocational Agriculture Teacher's Conference Report, Montana State College, Bozeman, Montana, June, 1939.

^{35/} Sutherland, S. S., "Supervised Farming - Yesterday, Today and Tomorrow", The Agricultural Education Magazine, Vol. II, No. 10, April, 1939, pp. 190-191.

should be a medium through which a student may put into practice what he learns and in doing so obtains essential experience; projects should be a method of growing into farming.

A supervised practice program influences greatly the choice of farming as an occupation. This same program depends upon the vocational agriculture instructor for its impetus, supervision and growth.

As a guide in the improvement of the supervised practice program, the characteristics of a good program are suggested below.

1. The supervised practice program must be adapted to the home farm and to the home community.
2. Preferably it should be selected after the boy has decided the type of farming he wishes to follow.
3. This program should be planned on the basis that it is not a single year activity but a long-time growing and broadening enterprise or group of enterprises.
4. Planning must be accurate to discover possibilities for success, growth, and education.
5. It must have scope enough so that in addition to making returns to the boy it will include a program of home farm improvement.
6. Records kept should be on the entire farming program of the boy and should be the type that can be later adapted to the entire farm.
7. Interpretation of records and planning on the basis of past experience must be done to give record keeping any value.

These requirements it seems may best be obtained or met by carefully planning in the inauguration of the program. Sufficient time should be spent

in school to develop with the boys an incentive to carry a good program of supervised farm practice. ^{36/} Personal records of each boy should be obtained, studied and discussed to determine what type of program will best fit the desires and the home farm of the individual. ^{37/} A conference with the boy and his parents should be arranged to secure approval, to discuss financing, to make plans for starting and to discover and make plans for growth, labor and record keeping on the selected program. Before actual written plans can be made, studies of plans and records of similar projects should be reviewed to develop a basis for planning.

Once the project is started, the vocational agriculture instructor will have to take the part of a supervisor and not a dictator in seeing that plans are carried out in a manner that will be of greatest benefit to the boy. A regular, punctual visitation program is recommended on the grounds that demands for accuracy and careful operation can best be developed through direct, careful supervision. Since a high percentage of ownership in the supervised practice program has been observed in this study, to result in a superior supervised practice program concentrated effort should be exerted to increase the ownership interest of a boy in his program.

Facilities for carrying on a farming program at home are not always conducive to programs of desirable type. Cooperative projects planned, financed, and carried out by groups within a department have helped to overcome this

^{36/}Palmer, R. H., "The Long-Time Planning Program", Mimeo., p. 15, Department of Agricultural Education Circular, Montana State College, Bozeman, Montana, July, 1937.

^{37/}Palmer, R. H., "Four-Year Farm Planning Program", Mimeo. p. 13, Department of Agricultural Education Circular, Montana State College, Bozeman, Montana, July, 1937.

handicap. In localities where the number of boys from farms of the above type is large, such projects may be developed and their installation is desirable. Projects of this type have been most successful in activities like fattening hogs, lambs, poultry and beef, and producing gardens and cash crops, where the period for completion is comparatively short and division of returns among members is easily made.

A supervised practice program that includes also a program of home farm improvement is superior to the single enterprise type. It provides for application of training in a wide variety of activities. It produces results on the home farm that often justifies the parents' sacrifices made in educating the boys in the family.

One method of developing the home farm improvement program is suggested. When enterprises in class are studied on the basis of the home farm enterprises, when recommendations are made on the basis of survey of this particular enterprise on the home farms, then application of these same recommendations is the next step. If each boy includes, at the conclusion of a study of an enterprise, within his supervised practice program, a list of things he can and will do at home, we have developed a basis for inclusion of home farm improvement. Accomplishment in this activity from here on will depend on the enthusiasm and ambition of the boy and supervision of the instructor. The more of one and the less of the other will be required and vice versa.

These recommendations may seem general but generalities are applicable in outlining an important improvement program for the entire state. Detailed steps will have to be developed by individual instructors to meet the needs of their local communities.

MADE IN U.S.A.

Development of a More Effective Follow-up Program With Former Students

To emphasize the importance of the follow-up program, the following quotation bears repeating: "Training a boy enrolled in a vocational agriculture department is only part of the responsibility of the department. His establishment in farming is the next step." ^{38/} The value of the part-time and evening schools as an effective program of follow-up of former students has been thoroughly discussed by many capable writers. ^{39/}

Much may be accomplished through a follow-up program by working with adults and out-of-school youth in part-time or evening schools. The work with groups does not meet the needs of all individuals receiving training in vocational agriculture. A follow-up program on the individual is necessary. Whether or not an instructor develops a part-time school, there are certain steps he must take if his follow-up program is to be effective.

He must enlarge the community survey previously mentioned ^{40/} to disclose farming opportunities that exist in a given community. A method of developing

^{38/} Prosser and Allen, "Vocational Education in a Democracy", Century Co., New York, 1925, pp. 14-15.

^{39/} Gregory, R. H., Specialist in Agricultural Education, Part-time and Evening Schools, U. S. Office of Education, Washington, D. C.

Lathrop, Frank Waldo, Specialist in Agricultural Education, U. S. Office of Education, Washington, D. C.

Hitzgerald, H. C., Tennessee Member of Research Committee of American Vocational Association.

^{40/} Teton County Planning Committees, "An Agricultural Policy for Teton County, Montana", Mimeographed, 54 pp., July, 1939. Land Use Planning Committee, Teton County.

Additional information may be secured from the Extension Service and Dept. of Agricultural Economics. These two agencies have completed surveys on Montana agriculture on the basis of material from census reports, Agricultural Adjustment Administration and Farm Security Administration files.

this survey by first exhausting possibilities for placement on the home farm was presented to the annual meeting of the American Vocational Association in Grand Rapids in December, 1939, by William T. Long. ^{41/} A schedule for obtaining information on all farms in the community has been developed by P. A. Smith of Michigan State College which may be used in making an entire community survey. ^{42/}

In addition, the instructor must develop a list of young men in the community interested in securing control of a farm. This list should be complete enough to give age, experience, qualifications, and address.

There are three essential requirements for success in the field of individual help. First, the out-of-school farm boy must be willing to present his problems to the instructor. Second, they must be encouraged to develop the habit of presenting his problems to the instructor. Third, he must have confidence in the instructor's advice and be ambitious in carrying out the suggestions.

Experience as agricultural instructor especially in Fergus County High School, Lewistown, Montana between the years of 1936 and 1939 convinced this writer of the above convictions. The results of a diary kept during four months of this period will best convey my point.

This instructor had three main objectives in mind in dealing with this out-of-school group. First, he made definite advances to secure interest

^{41/} Long, William T., "A Farm Which Teachers May Use to Determine Opportunities of Young Men on the Home Farms", P. S. #77, New York State School of Agriculture, Canton, New York, 1939.

^{42/} Smith, P. A., "Individual Survey of Placement Opportunities in the Williamston Area", Michigan State College, East Lansing, Michigan, 1938.

and confidence of these boys. Second, he used every opportunity that presented itself to be of assistance. Third, he kept a record of these conferences to discover the common problems and opportunity for success in this undertaking.

During this four months' period, 38 individuals conferred with this instructor a total of 92 times on problems directly affecting them. An average of 3 definite problems or questions were asked by these young men upon each visit. Second visits by the same individual brought up a discussion of original problems and questions 56 per cent of the time. The writer attempted to present one definite recommendation per visit. These suggestions or recommendations were followed, as far as could be determined, 42 per cent of time or cases. The more definite the problem of the boy, and the closer it was related to his immediate chance of success in an enterprise, the greater was the possibility that he would reappear for further information.

A summarization of the type of questions asked would not result in a common topic for instruction in a part time school. Interests and problems showed too great a variation in this particular study.

Requests for visitations to the farm of the individual occurred in only 12 per cent of the conferences. About 38 of the conferences took place in the agricultural building. The remainder occurred at community club meetings, public dances, on the street, on the home farm, at the local fair, on board a bus, after church on Sunday, during farm and home week at lectures, on a combine during harvest, on a picnic, and in general any time of day or night wherever contacts occurred.

The writer feels that his load was not materially increased by this activity; that the results were gratifying enough to compensate for the effort;

and that further activity along this line will strengthen both the department and the instructor in his local community.

A survey of farming opportunities in a given community should bring to light information concerning the following points.

1. Number of operators in the patronage area classed as to owners, renters, and managers.
2. Average yearly turnover in operators in this area.
3. List of farms for sale, and terms.
4. List of farms for lease, and terms.

With the results of this survey in hand, a decision may be made as to the desirability of a large number of boys acquiring training for agricultural occupations. Also definite information may be presented to the individual on possibilities of securing a farm.

The Development of More Thorough and Accurate Record
on Present and Former Students

Submitting department records to the directors and supervisors has been looked upon by many vocational agriculture instructors as a disagreeable chore with little value. As a result, many reports submitted have been neither complete nor accurate. Better records would increase the usefulness of data presented. Reports of the type that give information on kind of program carried out, background of individual students, programs of supervised farm practice, and present occupation of former students provide a great deal of information upon which to interpret the present program and make future plans. There is no easier way at the present time of gaining the desired information than through the supervisor of Agricultural Education. Results may be tabulated much easier if uniform forms are used in collection of the information. Forms

in Montana for the most part have been uniform. The degrees of accuracy, completeness and use may be questioned.

Recommendations that may improve the situation are:

1. That report forms be checked to remove requests for data that cannot be measured or are irrelevant; to add requests for further information needed as a basis for future plans.
2. That accuracy and completeness be improved by careful auditing in the state office upon receipt of the same and acceptance of only correct and complete forms.
3. That the agriculture instructors in Montana concentrated upon submitting correct and complete information.

Improvements in report forms and methods of completing and improving accuracy suggests the possibility of accumulating data that will be valuable for further summarization, interpretation, conclusion, and method of improvement.

Extension of the Research Program

This writer feels that many data exist at the present time which have been accumulated with no clear cut objective in mind. In many departments of vocational agriculture in this state, records exist that have not been utilized to any great extent in projecting changes or improvements. The same can be said of even larger accumulations in the state office.

If these data could be assembled, audited, and summarized in some way, undoubtedly much of value could be learned about the present program of vocational agriculture. Many writers have used only those records which developed results favorable to the program of vocational agriculture. These studies would be more valuable if, in addition, the weaknesses were brought

to light.

One method of securing a program of research would be by the allotment of the responsibility of the same to an individual on the state staff. If this individual was held responsible for the development of studies that would utilize only information that existed at the present time, many record forms would be given value that they do not now possess. As the investigation proceeded, needs for additional records could more accurately be prophesied and forms for obtaining them developed.

Many records from the state offices submitted to the national office of education are being used in this manner by the division of research. Recommendations are made on a regional or nation-wide basis. These records are valuable but have not solved many problems peculiar to a state or division of the state.

Research of special value to a vocational agriculture teacher in a local community should be and will have to be developed by the individual instructor. This writer feels that encouragement of research of this type is essential for the improvement of the program as a whole.

Conclusions drawn from the data assembled indicated to this writer seven general recommendations for improvement of the program of vocational agriculture in Montana. These recommendations are as follows.

1. Careful selection of teachers of vocational agriculture.
2. Careful selection of students for training in vocational agriculture.
3. Concentration on improvement in methods of teaching, selection of subject matter and teaching activities in vocational agriculture.
4. Improvement of the supervised practice program.

5. Development of a more effective follow-up program with former students.

6. The development of more thorough and accurate records on present and former students to provide data upon which to base further improvements.

7. Extension of the research program concentrating on use of material developed through the keeping of more complete and accurate records.

Since there is a great variation in size of departments, farming conditions and opportunities, equipment available for use and the general secondary educational systems, methods of carrying out the improvements suggested will vary. As a whole these recommendations were selected as applicable to the departments in the state as a group. The extent to which they are accepted will ultimately determine their value.

SUMMARY

From the results of this study it is evident that the results of departments of vocational agriculture in the placement of their enrollees in Montana have been similar to the average of the United States. Factors discovered to be to some extent influential in placement have not in all cases received the emphasis that they deserve.

The factors that appear to be important and influential in placement of students from vocational agriculture departments in farming are as follows:

1. The agricultural program.
2. The supervised practice program.
3. The teacher of vocational agriculture.
4. The follow-up program of former students.
5. The background of the individual.
6. Experience in an occupation.
7. The possibilities for entering an occupation that existed in the home community.

In summarizing results of the study of the 149 individuals, a number of conclusions may be drawn.

1. Variation in ages between farm laborers, farm partners and farm owners would indicate that these men receiving training in vocational agriculture have been using the "farm ladder method of getting into farming".

2. No significant difference in the amount of training is evident among the various occupational groups with one exception. Those actually engaged in farming have received an average of 3.2 years of training in vocational agriculture, while those in related and unrelated occupations have received an

average of 1.53 years of training in vocational agriculture.

3. Men from farms that have the highest percentage of owned land are more apt to farm than those from farms where ownership status is lower.

4. Long tenure of the parents is more conducive to placing the boys of the family in farming than a short period of tenure.

5. The number in the family and the number still at home seemed to have little effect on the choice of farming as an occupation.

6. Residence while attending high school seemed to have little or no effect on placement of young men in farming.

7. The type of occupation during the summer, though variable between the groups seemed to exert little or no influence on placement.

8. The type and quality of the supervised practice program of an individual seemed to be a good ground upon which to predict future occupation.

9. The type of farming practiced by an individual is influenced to a great extent by the type of farming practiced on the home farm and to a lesser extent by his supervised practice program in high school.

10. Present occupation of these individuals has been influenced by the occupation of the parents, opportunity, interest, and experience.

11. The greatest problem encountered in getting into farming was one of financing the purchase of a farm.

12. Units of courses in vocational agriculture discovered to be most helpful are those that are adapted and applicable to the present farm or occupation.

13. Units of courses in vocational agriculture listed as least useful are those unadapted or inapplicable divisions.

Consideration of factors discovered to be important and conclusions drawn on the basis of this study suggest the following recommendations.

1. Careful selection of teachers of vocational agriculture.
2. Careful selection of students for training in vocational agriculture.
3. Concentration on improvement in methods of teaching, selection of subject matter and teaching activities in vocational agriculture.
4. Improvement of the supervised practice program.
5. Development of a more effective follow-up program with former students.
6. The development of more thorough and accurate records on present and former students to provide data upon which to base further improvements.
7. Extension of the research program concentrating on use of material developed through the keeping of more complete and accurate records.

This summarization suggests to the author many topics that deserve consideration and development. Their consideration may help to solve now problems that will undoubtedly develop.

APPENDIX

TABLE I.--MONTANA FORM USED IN SECURING PLACEMENT DATA ON FORMER STUDENTS
DEPARTMENT OF VOCATIONAL AGRICULTURAL EDUCATION
HELENA, MONTANA
Vo-Ag Form No. 231

Department _____

Year Department was established _____

Year this report was made _____

Number of years included in this report _____ From 19____ to 19____

Present Vo-Ag instructor _____

Status of former all-day students who have received
one or more years of vocational agricultural training
and are not now in school.

1. Number who own farms or are buying farms
2. Number who are renting farms
3. Number who are farming with parents:
 - a. As partners under a definite agreement
 - b. On a definite or indefinite allowance
 - c. Developing one or more farm enterprises
from which they receive the income
 - d. Working for wages
4. Number who are partners in a farm business
(Not on home farm)
5. Number who are farm managers
6. Number who are working on farms for wages
7. Number in occupations related to farming
8. Number in agricultural colleges
9. Number continuing their education in non-
agricultural colleges and other institutions
10. Number in non-agricultural occupations
11. Number deceased
12. Number not reported:
 - a. Moved away from the community
 - b. Other
- TOTAL

REPORT DUE _____

TABLE II.--INSTRUCTIONS FOR RATING VOCATIONAL AGRICULTURE
DEPARTMENTS

In rating the vocational agricultural departments according to the eleven headings on the rating sheet consider the following points under their respective headings. Please use the following percentage rating:

Excellent rating	-	81 - 100 per cent
Good rating	-	61 - 80 per cent
Average rating	-	41 - 60 per cent
Fair rating	-	21 - 40 per cent
Poor rating	-	1 - 20 per cent

I. Shop Program

- A. Type of instruction and demonstrations
- B. Kinds of projects constructed
- C. Carry-over to the home farm

II. Agricultural Program

- A. Methods used in presenting material and subject matter
- B. Tie-up with the community and home farms
- C. Seasonal correlation of subject matter
- D. Effectiveness of field work
- E. Carry-over of class instruction to the home farm

III. Supervised Practice Program

- A. Size and scope of projects
- B. Degree adapted to the community
- C. Ownership
- D. Growth

IV. Shop Equipment

- A. Completeness of tool lists for skills taught and projects constructed
- B. Adapted to use in the home farm shops
- C. Facilities for storing and repairing
- D. Floor space or room
- E. Light, heat, and ventilation

V. Agricultural Equipment

- A. Completeness of reference material
- B. Availability of the reference material to the boys
- C. Completeness of equipment for demonstrations and field work
- D. Floor space, tables, chairs, heat, light, and ventilation

VI. Instructors

- A. Interest
- B. Ambition
- C. Tenure
- D. Character

TABLE II. (Continued)

VII. Department Location

- A. Location as to desirability of type of farming carried on in the patronage area

VIII. Evening School

- A. Existence of an evening school
- B. Type
- C. Follow-up program

IX. Part-time School

- A. Same as evening school with more emphasis on the follow-up and placement program

X. Additional Follow-up Program

- A. Activity in continuing contacts with former students
- B. Program used in place of part-time or evening schools
- C. F. P. A. alumni program

XI. Future Farmer Program

- A. Program of work
- B. Activity
- C. Results

TABLE III.—SCHEDULE FOR RATING VOCATIONAL AGRICULTURAL DEPARTMENTS OF MONTANA.

[illegible]

TABLE IV.--SCHOOLS IN LOWER ONE-THIRD IN PLACEMENT

No.	1	2	3	4	5	6	7	8	9	10	11	12	Per Cent Placemnt.
23	30	37	23	17	43	50	23	10	10	23	43	30	12.5
24	50	50	30	57	57	57	37	10	10	23	37	43	30.0
10	77	77	77	77	57	83	83	30	57	57	57	77	37.5
19	37	50	37	37	50	43	83	10	10	37	37	50	38.5
21	83	37	30	83	57	50	37	10	37	43	30	43	42.25
1	70	63	50	63	70	77	77	17	50	70	57	70	45.32
14	23	50	43	63	63	43	37	10	10	30	30	43	46.0
20	43	50	50	63	63	70	70	17	30	63	50	57	51.0
12	43	50	50	50	50	37	50	10	10	30	30	50	51.25
7	30	37	37	43	37	77	50	43	17	30	30	30	51.5

TABLE IV Continued.--SCHOOLS IN MIDDLE ONE-THIRD IN PLACEMENT

No.	1	2	3	4	5	6	7	8	9	10	11	12	Per Cent Placemnt.
27	43	43	30	30	50	30	43	57	10	10	30	43	52.5
25	50	43	50	50	50	50	83	10	37	50	63	57	58.5
4	57	50	43	57	57	30	70	17	17	37	37	37	60.0
15	30	50	37	83	70	43	30	10	23	37	43	43	61.25
28	43	43	43	30	57	57	83	17	37	43	50	57	63.5
8	30	43	43	37	57	63	77	10	17	50	50	37	64.25
29	63	50	43	37	43	50	63	10	10	37	50	50	65.0
6	30	37	23	37	37	50	23	10	10	23	50	30	65.0
30	50	57	57	50	43	43	83	10	30	30	43	50	65.75
22	57	57	43	37	50	57	30	17	30	50	50	50	66.75

TABLE IV Continued.--SCHOOLS IN HIGH ONE-THIRD IN PLACEMENT

No.	1	2	3	4	5	6	7	8	9	10	11	12	Per Cent Placemnt.
17	30	50	37	43	50	43	90	17	17	43	50	43	69.5
11	43	70	63	43	70	83	77	10	23	77	90	77	75.5
13	43	57	57	43	50	77	77	17	57	63	63	70	76.0
18	63	57	57	77	70	83	70	23	17	57	57	70	80.5
16	43	50	30	30	50	70	37	17	10	37	23	43	80.75
9	63	77	63	63	77	90	77	43	57	57	57	77	81.5
5	50	63	57	43	63	70	77	50	30	70	57	70	85.75
2	30	43	23	50	50	37	57	10	17	23	37	23	88.5
26	43	43	50	43	43	50	70	10	17	37	43	50	90.5
3	50	43	43	70	57	57	57	23	30	37	43	50	94.25

TABLE V.—PLACEMENT OF FORMER STUDENTS IN 30 VOCATIONAL AGRICULTURE DEPARTMENTS

	Total No. of Boys With 1 yr. or More Vo-Ag	In Farming and Related Occupations								In Unrel. Occup.		
		Per Cent Farming						Pet. in Rel. Oc- cup.	Pet. in Agri. Col- leges	Total Pet.	Pet. in Un- rel. Occup.	Pet. in Non- Agri. Col- leges
		Total Pet.	Pet. Farm- ing	Pet. Farm Own- ers	Pet. Farm Rent- ers	Pet. Farm Part- ners	Pet. Farm Labor- ers					
Belt	139	45.32	27.33	5.0	4.32	1.44	16.54	13.67	4.32	54.68	46.0	8.03
Big Sandy	26	88.5	69.2	7.69	19.23	0.	42.30	11.53	7.09	11.53	3.04	7.69
Big Timber	87	94.25	91.95	27.58	3.44	3.44	39.08	17.24	3.44	5.74	0.	5.74
Dillings	45	60.00	55.55	4.44	20.00	0.	31.00	2.22	2.22	40.00	37.77	2.22
Bozeman	168	85.75	64.88	19.04	5.95	10.71	29.18	17.86	3.97	14.28	13.09	1.19
Browning	40	65.00	60.00	17.50	25.00	2.50	15.00	2.50	2.50	35.00	35.00	0.
Cascade	31	51.50	32.25	6.45	0.	0.	25.80	12.90	6.45	48.38	45.16	3.22
Chinook	140	64.25	53.57	25.00	8.57	3.15	18.57	7.85	2.85	27.14	34.28	3.85
Choteau	92	81.50	38.04	3.26	5.43	10.83	18.47	28.26	15.21	18.47	11.95	6.52
Conrad	40	37.50	27.50	10.00	10.00	7.50	0.	2.50	7.50	62.50	51.30	11.20
Deer Lodge	45	75.50	44.44	23.88	0.	6.66	8.88	22.22	8.88	24.44	17.77	6.66
Denton	39	51.25	38.46	5.12	7.69	0.	25.64	7.69	5.12	48.71	20.51	28.20
Dillon	75	76.00	29.33	13.33	16.00	0.	0.	33.33	13.33	24.00	16.00	8.00
Glasgow	126	46.00	17.46	3.17	4.78	0.	9.53	26.20	2.38	53.96	50.00	3.96
Harlowton	49	61.25	46.93	16.32	8.16	2.04	20.40	14.28	0.	38.77	30.60	8.16
Highwood	31	80.75	42.00	3.22	6.44	0.	32.20	29.03	9.67	19.35	16.13	3.22
Kalispell	151	69.00	59.61	15.23	30.46	1.98	11.93	6.62	2.64	31.12	30.46	.66
Lewistown	196	80.50	65.30	20.40	30.10	4.08	10.72	11.22	4.08	19.39	12.25	7.14
Manhattan	44	38.50	27.27	0.	18.18	0.	9.09	11.36	0.	61.56	47.72	13.83
Miles City	114	51.00	21.06	6.14	7.89	5.26	1.75	25.43	4.38	49.14	44.73	4.38
Missoula	52	42.25	15.38	13.46	1.92	0.	1.92	21.15	5.76	57.60	32.69	25.00
Moccasin	51	66.75	31.57	19.60	11.76	0.	0.	29.41	5.88	33.33	27.40	5.88
Musselshell	24	12.50	4.16	0.	0.	0.	4.16	4.16	4.16	87.50	75.00	12.50
Ophain	50	30.00	8.00	2.00	2.00	0.	4.00	16.00	6.00	70.00	66.00	4.00
Polson	41	58.50	41.46	12.19	12.19	2.43	14.63	9.75	7.31	41.46	31.70	9.75
Sims	105	90.50	75.23	8.61	12.38	0.	65.23	9.52	5.71	9.52	9.52	0.
Townsend	21	52.50	36.09	4.76	4.76	4.76	23.80	9.52	4.76	4.76	4.76	0.
Valier	33	63.50	57.57	9.09	12.12	16.16	6.06	30.30	6.06	0.	36.36	15.15
Whitahall	43	65.00	46.51	9.30	32.50	0.	4.65	13.90	4.65	34.88	27.90	6.97
Worden	140	65.75	52.85	6.57	22.85	7.14	14.28	7.14	5.71	34.28	28.57	5.71
Total	2238	65.54	45.70	12.34	12.88	3.17	17.33	14.96	4.88	34.46	28.57	5.89
Farming			100%	26.97	28.15	6.94	37.92					
Farming & Related	100%	69.73	16.81	19.63	4.83	26.44	22.33	7.43				
Unrel.										100%	82.87	17.12

I. PERSONAL INFORMATION

Name _____ Address _____
Age _____ High School Attended _____
Number of years in high school _____ Graduation date _____
Number of years enrolled in Vocational Agriculture _____
High School IQ _____ Rank in H. S. class (thirds) H _____ M _____ L _____
Rank in class in Vocational Agriculture H _____ M _____ L _____
Did you ever attend Part-time school? _____ Evening school? _____
Schooling in addition to high school _____

II. INFORMATION ON PARENTS

Name _____ Address _____
Occupation _____
If Farming:
Home farm location _____
Size of home farm in acres _____ Acres owned _____
Acres rented _____ Acres cultivated _____
Acres in pasture _____ Is the farm free of debt? _____
If entire farm is rented:
Years present farm has been rented _____
Number of farms rented in the past 20 years _____
Major enterprises on the home farm _____
Supplementary enterprises on the home farm _____

Minor enterprises on the home farm _____
Number in the family _____ Number still at home _____

Boys	Age	Location	Marital Status
Girls			

III. RESIDENCE AND OCCUPATION WHILE ATTENDING HIGH SCHOOL

Residence while attending high school:

With own family on the home farm _____ in town _____

Not with own family, but on a farm _____ in town _____

Summer occupation while attending high school:

On home farm with definite allowance _____ Amount _____

On home farm without definite allowance _____

On farm _____ Status _____ Income _____

In town _____ Status _____ Income _____

IV. SUPERVISED PRACTICE PROGRAM WHILE ATTENDING HIGH SCHOOL

% Ownership	Class	Kind, Size and Scope of Enterprise
	Freshman	
	Sophomore	
	Junior	
	Senior	

Ownership and investment in farm equipment, livestock, and supplies upon
graduation from high school _____

V. PRESENT OCCUPATION

If Farming:

Size of farm _____ Owned Acres _____ Rented Acres _____

Ownership status _____

Acres in crops _____ Acres in pasture _____

Livestock, kind and number; Crops, kind and acres.

If farming on the home farm, business agreement _____

If in occupation other than farming:

<u>Year</u>	<u>Occupation</u>	<u>Salary</u>

Possibilities for advancement _____

Reason for entering this occupation _____

Did you wish to attend college upon graduation? _____

Did you have the opportunity and funds to attend college? _____

Did you attempt to get work in other fields before beginning to farm? _____

Would you have gone into farming if you could have entered another field? _____

What parts in your course in Vocational Agriculture did you find most helpful? _____

What parts in your course in Vocational Agriculture have been least helpful?

At the present time what phases of your work do you wish that you knew more about? _____

TABLE VII.--CORRELATION FORMULA USED

The formula used in developing the coefficient of correlation is as follows: 1/

$$r = \frac{\sum XY - N(\bar{X})(\bar{Y})}{\sqrt{(\sum X^2 - N\bar{X}^2)(\sum Y^2 - N\bar{Y}^2)}}$$

When: X is the independent variable

Y is the dependent variable

$\bar{X}$ is the arithmetic mean of the X variable

$\bar{Y}$ is the arithmetic mean of the Y variable

N equals the number of apairs of variables

Σ is equal to the sum or means summation

r equals the coefficient of correlation

1/ Halcrow, Harold, C., Agricultural Statistics, unpublished manuscript, mimeographed, Montana State College, January, 1940, p. 30.

TABLE VII.--MINIMUM PROJECT REQUIREMENTS FOR THE STATE OF MONTANA

Name of Project	Kind of Project	1st Year	2nd Year	3rd and 4th Yrs.
Beef cattle	Baby beef Breeding pure bred	3 with crop supp. 2 heifers Rec. own a bull or breed to bull better than heifers plus crop	Natural Inc. (5-6) " "	6 - 8 Nat. Increase (10 head) " "
	Brooding range	5 cows crop supp. or 20 a. hay	"	"
Dairy	Milk cows	2 cows & calf Supp. crop project	2 cows & heifers	"
	Growing dairy calves heifer	5 calves & feed supp.	5 more calves & crop supp.	Continuation
	Pure bred stock	1 cow & crop supp. Access to P.B. bull	Nat. increase	Nat. increase
Poultry	Laying	250-300 chix 100 pullets	100 hens	Nat. increase At least 100 hens
	Hatchery flock	50 - 100		
	Capons	50		
	Turkeys	5 hens, 1 tom	5 hens, 1 tom	Nat. increase
	Geese	3 geese, 1 gander	5 geese, 1 gander	" "
	Ducks	75 ducks for market		
Bees	Honey prod.	5 stands	10 hives	" "
Hogs	Sow & litter	1 sow & litter P.B., crop supp.	2 sows & litter Supp. feed	" "
	Feeder hogs	10 head (sugg. car lot for class & crop	20 head Feed supply	Car lot

TABLE VIII. Continued:

Sheep	Registered or Pure bred	5 ewe lambs	5 original & ewe lambs	Nat. increase
	Bum or grade lambs	25 to start 10 head at finish	10 more ewe lambs than pre- vious yr. Sugg. (all bucks should be sold and ewe lambs bought to re- place bucks or trade for ewes)	
	Gumner ewes	10-15		
	Feeders sheep " old	Lambs (car lots 240) Old sheep (car lots 240)		
	Growing Ewe lambs	25 50 head with feeds supp.		
	Range breed- ing	20 head with records on band	Nat. increase	Nat. increase

TABLE VIII. Continued:

	1st year	2nd year
Dry-land wheat	Partnership project - 25 acres belonging to the boy in crop, plus keeping cost account records on entire field	25 acres fallow 25 acres crop Records on both entire fields or 25 acres of wheat plus an animal husbandry project.
Full ownership	25 acres in crop - full responsibility	25 acres fallow plus 25 acres of crop or an A. H. project.
Regis wheat	Full ownership - 5 acres	10 acres crop
2 year project and crop	Full responsibility 20 acres	
Irrigated wheat	Discourage except for feed purposes in connection with A. H. project - 10 acres	20 acres ditto
Spuds New-spud sections	1 acre market "In general, discourage	5 acres
Spuds Spud sections	5 acres	
Dry land flax	Partnership project 15 acres belonging to boy in crop in seed plus keeping cost account records on entire field	15 acres fallow 15 acres crop Records both entire fields or 25 acres of wheat plus an A. H. project
Fullownership	15 acres in flax - full responsibility	15 acres fallow plus 25 acres crop or an A. H. project
Registered	Discourage	

TABLE VIII. Continued:

Barley & Oats dry-land for feed with A. H.	Raised for feed in con- nection with an A. H. project - 10 acres	15 acres in connection with A. H. project
Barley & Oats for Sale	20 acres	
Barley irrigated with A. H. project	10 acres	15 acres in connection with A. H. project
Raised for sale	Discourage "20 acres if taken"	

TABLE IX.--MONTANA VOCATIONAL AGRICULTURE DEPARTMENTS AND LOCATION
1939-40

<u>Post Office</u>	<u>Name of School</u>	<u>County</u>
1. Absarokee	Absarokee High School	Stillwater
2. Belfry	Belfry High School	Carbon
3. Belgrade	Belgrade High School	Gallatin
4. Belt	Belt Valley High School	Cascade
5. Big Fork	Big Fork High School	Flathead
6. Big Sandy	Big Sandy High School	Chouteau
7. Big Timber	Sweet Grass Co. High School	Sweet Grass
8. Billings	Billings High School	Yellowstone
9. Bozeman	Gallatin Co. High School	Gallatin
10. Bridger	Bridger High School	Carbon
11. Browning	Browning High School	Glacier
12. Cascade	Cascade High School	Cascade
13. Chester	Chester High School	Liberty
14. Chinook	Chinook High School	Blaine
15. Choteau	Teton County High School	Teton
16. Conrad	Conrad High School	Pondera
17. Culbertson	Culbertson High School	Roosevelt
18. Deer Lodge	Powell Co. High School	Powell
19. Denton	Denton High School	Fergus
20. Dillon	Beaverhead Co. High School	Beaverhead
21. Dutton	Dutton High School	Teton
22. Fairfield*	Fairfield High School	Teton
23. Fort Benton	Fort Benton High School	Chouteau
24. Glasgow	Glasgow High School	Valley
25. Hardin	Hardin High School	Big Horn
26. Harlowton	Harlowton High School	Wheatland
27. Highwood	Highwood High School	Chouteau
28. Hingham	Hingham High School	Liberty
29. Hinsdale	Hinsdale High School	Valley
30. Joplin	Joplin High School	Liberty
31. Kalispell	Flathead Co. High School	Kalispell
32. Laurel	Laurel High School	Yellowstone
33. Lewistown	Fergus Co. High School	Fergus
34. Lodge Grass	Lodge Grass High School	Big Horn
35. Lonepine	Lonepine High School	Sanders
36. Malta	Malta High School	Phillips
37. Manhattan	Manhattan High School	Gallatin
38. Medicine Lake	Medicine Lake High School	Sheridan
39. Miles City	Custer Co. High School	Custer
40. Missoula	Missoula Co. High School	Missoula
41. Moccasin	Moccasin High School	Judith Basin
42. Musselshell	Musselshell High School	Musselshell

TABLE IX. Continued:

43. Opheim	Opheim High School	Valley
44. Polson	Polson High School	Lake
45. Power	Power High School	Teton
46. Roman	Roman High School	Lake
47. Scobey	Scobey High School	Daniels
48. Sidney	Sidney High School	Richland
49. Simms	Simms High School	Cascade
50. Stanford	Stanford High School	Judith Basin
51. Stevensville	Stevensville High School	Ravalli
52. Townsend	Broadwater Co. High School	Broadwater
53. Twin Bridges	Twin Bridges High School	Madison
54. Valier	Valier High School	Pondera
55. Whitehall	Whitehall High School	Jefferson
56. Worden	Huntley Project High School	Yellowstone

* New Schools

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