

THE OBJECTIVES OF THE COOPERATIVE GROUP PROJECT
AS A DEVICE IN TEACHING HIGH SCHOOL CLASSES
OF VOCATIONAL AGRICULTURE

by

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TABLE OF CONTENTS

| | Page |
|--|------|
| INTRODUCTION. | 1 |
| PURPOSE | 2 |
| METHOD OF PROCEDURE | 3 |
| THE QUESTIONNAIRE | 4 |
| Definitions. | 4 |
| Checking Answers | 5 |
| Methods Used in Gaining Each Objective | 8 |
| INTERPRETATION OF DATA SECURED. | 19 |
| Evaluation of Objectives | 19 |
| CONCLUSIONS | 80 |
| ACKNOWLEDGMENT. | 87 |
| LITERATURE CITED. | 88 |

INTRODUCTION

Vocational agriculture had its beginning in the passing of the Smith Hughes Act (6) in 1917. The act does not mention projects as such, but it describes the requirements for federal aid under the act as follows: "The controlling purpose of such education shall be to fit for useful farm employment. Such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm or of the farm home. Such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year (6)".

It was the purpose of the act to provide actual experience in the jobs that arise in the vocation of farming. Kansas, as well as other states, used the individual home project, the class or cooperative group project, and home practice work in qualifying under the term of supervised practice in vocational agriculture.

It is the purpose of this study to evaluate the objectives and methods used in the conduct of one phase of this

supervised practice program, namely, the cooperative group project. Perhaps no other state has had as much experience as Kansas in the use of the cooperative productive farm project as a device in supplementing the individual supervised practice program. For the year ending June 30, 1934, a total of thirty-four cooperative group projects were conducted by departments of vocational agriculture and Future Farmer Chapters(3).

For the years 1928-1934 inclusive, there has been an average of thirty-two cooperative group projects conducted by departments of vocational agriculture in Kansas high schools.

Since this type of project has been used so widely, the author became interested in determining what the objectives should be and what methods are being used in gaining these objectives by the most successful teachers of vocational agriculture in Kansas high schools.

PURPOSE

The purpose of this study was to determine,

1. The principal objectives of the cooperative group project.
2. The relative importance of these objectives.

3. The type of cooperative group project best suited to gain each objective.
4. The evaluation of the methods used in accomplishing each objective.
5. The type of cooperative group project best suited to each method used.
6. The most suitable size of a cooperative group project.

METHOD OF PROCEDURE

The study of this problem was confined to Kansas. Thirty-one questionnaires were sent to teachers of vocational agriculture who have had experience in the conduct of cooperative group projects. The questionnaire consisted of two parts; first, the evaluation of objectives and types of projects; and second, the evaluation of methods used in gaining the objectives.

In the first part of the questionnaire, eleven objectives were listed and the teacher was asked to rate these objectives as to their relative importance such as "essential", "desirable", "doubtful", and "not necessary". The teacher was also given opportunity to check the "type of project" through which each objective might be obtained most

readily.

The second part of the questionnaire dealt with the methods used in gaining each objective and the teacher was asked to rate each method on the basis of "excellent", "good", "doubtful", and "undesirable". He was also asked to check the type of project most adaptable to each method listed in the questionnaire.

THE QUESTIONNAIRE

Definitions

Types of projects. Continuation project--This refers to the operation of the same enterprise year after year.
Example: Fattening beef cattle, growing potatoes, winter egg production, etc.

Varying the project to fit economic trends. Example: Conducting livestock or crop enterprises only when market trends and production costs appear to make it a profitable venture.

Single phase--Conducting only a part of a complete cycle of a farm enterprise. Examples: Feeding lambs, feeding beef cattle, fattening shoats or broilers.

Complete cycle of production--Carrying an enterprise through a complete cycle of production. Examples: Sow and litter, ewe and lamb, wheat, corn, or potato production when all jobs are performed in the complete cycle.

Checking Answers

The following specific directions were included with the questionnaire:

1. Read carefully the directions on sheets 1 and 2 as you proceed.
2. Note that you are to decide after each objective whether it is "essential", "desirable", "doubtful", or "not necessary". Check only one.
3. In columns 1, 2, 3, and 4, please check the type of project best suited to gain each objective. Check only one.
4. In a similar manner you are to rate the methods used in gaining each objective (note that the rating factors change to "excellent", "good", "doubtful", and "undesirable")
5. Please check each sheet completely.

Questionnaire Device for Checking Objectives

| Objectives* | : Relative importance : of objectives | | | | : Classification of types : of group projects | | | |
|--|--|-----|-----|-----|--|-----|-----|-----|
| | : A Essential | | | | : 1 Continuation | | | |
| | : B Desirable | | | | : 2 Vary with economic trends | | | |
| | : C Doubtful | | | | : 3 Single phase | | | |
| | : D Not necessary | | | | : 4 Complete cycle | | | |
| Example: To introduce a potential enterprise into a community. | : A | : B | : C | : D | : 1 | : 2 | : 3 | : 4 |
| 1. | : ✓ | | | | | | ✓ | |
| 2. | : | | | | | | | |
| 3. | : | | | | | | | |
| 4. | : | | | | | | | |
| 5. | : | | | | | | | |
| 6. | : | | | | | | | |
| 7. | : | | | | | | | |
| 8. | : | | | | | | | |
| 9. | : | | | | | | | |
| 10. | : | | | | | | | |
| 11. | : | | | | | | | |

*A complete list of the objectives will be found on page

Objectives of the Cooperative Group Project

1. To introduce a potential enterprise into a community.
2. To earn money for the local Future Farmer Chapter.
3. To develop a convenient laboratory for group instruction.
4. To develop the idea of cooperation among the boys and others in the community.
5. To increase interest in the study of the productive skills of an enterprise.
6. To give participation experience in the mechanics of marketing.
7. To demonstrate to the farmers of a community the correct production procedure in an enterprise.
8. To set up a comparison of two or more production practices.
9. To improve the quality of an enterprise in a community.
10. To gain publicity for the Future Farmer Chapter.
11. To give experience in the production and management of enterprises of a farm unit size.

Each teacher was given opportunity to check each objective such as shown on page 6 in checking device. He was asked to evaluate each objective and also to check the type of project through which it could be most readily obtained.

Methods Used in Gaining Each Objective

The first objective is to introduce a potential enterprise into a community.

1. Teacher and Future Farmer Chapter get approval of the school board.

2. Teacher and Future Farmer Chapter get approval of school principal and superintendent.

3. Teacher and members of the Future Farmer Association visit successful operators of this enterprise in the community and seek their counsel.

4. Teacher and group together set up the advantages of such an enterprise to the community.

5. Teacher and group work out a budget together showing cost of production and probable returns of the enterprise.

6. Get approval and support of an agricultural committee of the chamber of commerce or civic club.

7. Get approval and support of the farm organizations

in the community.

8. Get approval and support of the parents of the boys involved.

9. Get approval and support of the majority members of the Future Farmer Association.

The second objective is to earn money for the Future Farmer Association Chapter.

1. The chapter finance all group activities by borrowing money as individuals from other people.

2. The chapter finance all group activities by borrowing money as individuals from the local bank.

3. The chapter finance all group activities by borrowing money as individuals from the Production Credit Association or other federal credit agencies.

4. The chapter finance the group project cooperatively with the school board.

5. School board provide all money for the investment in stock and equipment, chapter furnish all labor and management and share in a per cent of the profits.

6. School board furnish all money and equipment and chapter perform all labor and management without any monetary returns.

7. Chapter and teacher cooperatively finance the

project dividing the returns on basis of investment.

8. The chapter furnish either money or feed according to the resources of each member.

9. The project financed entirely out of previous project earnings.

10. The project financed by the teacher or other individuals.

The third objective is to develop a convenient laboratory for group instruction.

1. Locate equipment within two or three blocks of the high school building.

2. Locate fields near town.

3. Arrange pens conveniently for handling the stock.

4. Students should perform all labor and management.

5. Locate lots and equipment on a farm several miles from town.

6. Rent a farm and equipment on edge of town.

7. School purchase land and build equipment.

8. Future Farmer Association lease a farm and equipment.

9. Future Farmer Association buy land and build equipment.

10. School district purchase land and build equipment and chapter buy from school through a per cent of project returns.

The fourth objective is to develop the idea of cooperation among the boys and others in the community.

1. Students and teacher cooperatively plan and budget a group project.

2. Students and teacher work out a plan to cooperatively finance the group projects.

3. Students cooperatively share all labor and management of the group project.

4. Students cooperatively buy feed and stock.

5. Students market cooperatively.

6. Students share returns cooperatively.

7. Show stock that is owned cooperatively.

8. The group cooperatively purchase purebred stock or certified seed.

9. Study bulletins, text books, and trade papers on consumer and producer cooperatives.

10. Develop teams and contestants for competing with other groups.

The fifth objective is to increase interest in the study of the productive skills of an enterprise.

1. Students participate in the budgeting and planning of the group project.

2. Students select stock, seed, or plants needed to conduct the project.

3. Students construct house or buildings, equipment, fences, and labor saving devices.

4. Students observe and practice sanitation in the control of plant and animal diseases.

5. Students actually do the feeding and care of livestock and the culture of the plants.

6. Students judge the progress of the project indicating the probable time of marketing.

7. Students harvest products, sort, grade, and process for market.

8. Students participate in such special skills as pruning, culling, docking, etc.

9. Students cooperatively plan and finance their own project.

10. Students prepare and exhibit their products at fairs.

11. Students market their products.

The sixth objective is to give participation experience in the mechanics of marketing.

1. Sorting and grading products on the farm.

2. Processing and packing.

3. Storing.

4. Studying market cycles and trends.

5. Inspecting, sampling, and grading.

6. Grading livestock for shipment.
7. Preparing livestock for shipment.
8. Chartering a car.
9. Preparing car for loading.
10. Loading a car.
11. Signing invoice.
12. Insuring product during transit.
13. Operation of a livestock exchange.
14. Operation of a grain and hay exchange.
15. Selling through commission agent or broker.

The seventh objective is to demonstrate to the farmers in a community the correct production procedure in an enterprise.

1. Instructor suggests that the farm practices used in the group project be used in the home projects.
2. The chapter holds annual field days.
3. Boys carry home the ideas to parents.
4. Chapter publishes summaries of projects in local papers.
5. Chapter publishes results in chapter publication.
6. Gives demonstrations and exhibitions at fairs.
7. Cooperates with farm organizations.
8. Cooperates with local bank.
9. Cooperates with local hatchery.

10. Instructor uses group project data in evening school and part time instruction.

11. Cooperates with breeders and certified seed growers.

12. Chapter publishes story summaries in farm papers.

13. Instructor makes personal contact with farmers in the community.

The eighth objective is to set up a comparison of two or more production practices.

1. Balanced rations versus unbalanced rations.

2. Purebred versus hybrid animals.

3. Good housing compared with inferior.

4. Grinding grains compared to feeding whole grains.

5. Control of disease compared to lack of control.

6. Wet versus dry feeding.

7. Marketing cooperatively versus shipping and selling on open market.

8. Certified seed versus ordinary seed.

9. Field seed selection versus ordinary seed.

10. Seed treatment versus no treatment.

11. Varying seed bed preparations.

12. Varying culture methods.

13. Variety tests.

14. Fertilizers tests.

15. Time and method of harvesting.

The ninth objective is to improve the quality of an enterprise in the community.

1. The chapter purchases purebred female animals and distributes cooperatively among the boys.
2. Develops cooperative bull, ram, or boar associations.
3. Chapter purchases high grade stock and use purebred males already available in the community.
4. The group purchases certified chicks, eggs, or poults.
5. Uses certified seed in a group project.
6. Sells certified seed or stock from the project.
7. Uses improved methods in feeding.
8. Uses improved cultural methods.
9. Practices sanitation and control of disease.
10. The chapter practices erosion control and soil and moisture conservation in group projects.
11. Increases soil fertility.
12. Improves housing and equipment.

The tenth objective is to gain publicity for the local Future Farmer Association Chapter.

1. Locate lots, fields, plots, etc., near an important highway.
2. Conducts field days and project tours with every

member of the Future Farmer Association.

3. Invite other members of the high school to visit the projects.

4. Give public demonstrations on group project site.

5. Send articles of interest to local paper.

6. Write articles for farm press.

7. Write articles for breed papers.

8. Send summaries of projects to farmers in the community.

9. Invite parents to visit projects at chore time when students are doing work.

The eleventh objective is to give experience in the production and management of enterprises of a farm unit size.

1. Growing wheat in group projects.

2. Growing of corn in group projects.

3. Growing rye, oats, or barley in group projects.

4. Growing corn for silage in group projects.

5. Growing sweet corn in group projects.

6. Growing pop corn in group projects.

7. Growing grain sorghums for silage in group projects.

8. Growing sorghums for hay in group projects.

9. Growing sorghums for grain in group projects.

10. Growing sorghums for brooms in group projects.

11. Growing alfalfa for hay or seed.

12. Growing sweet clover for seed, pasture, or soil improvement.

13. Growing lespedeza.

14. Growing cowpeas or soybeans.

15. Growing winter vetch.

16. Growing potatoes.

17. Growing tomatoes.

18. Growing a vegetable garden.

19. Growing a fruit orchard.

20. Growing a vineyard.

21. Fattening beef cattle for market.

22. Fattening lambs for market.

23. Fattening swine for market.

24. Fattening broilers for market.

25. Fattening capons for market.

26. Fattening turkeys for market.

27. Raising a beef breeding herd.

28. Raising a dairy herd for milk.

29. Raising a poultry flock for eggs.

30. Raising a swine breeding herd.

31. Raising a ewe flock.

32. Raising a breeding flock of turkeys.

INTERPRETATION OF DATA SECURED

In the questionnaire each teacher of vocational agriculture was asked to check the eleven objectives as to their importance, such as "essential", "desirable", "doubtful", and "not necessary". Opportunity was also given for each teacher to check the type of group project, "continuation", "vary with economic trends", "single phase", and "complete cycle" that he considered most suitable to use in gaining each objective.

The material gathered was compiled on the basis of the number of teachers reporting under each heading. The answers were summarized under the same general headings as they were grouped in the questionnaire.

Evaluation of Objectives

In Table 1, it will be noted that the objectives are ranked according to the factor "essential". The objective holding priority rank is, "To develop the idea of cooperation among the boys and others in the community". This objective was uppermost in the minds of those teachers reporting, 63.6 per cent checking it "essential" and 36.4 per

Table 1. Per cent of teachers evaluating objectives in order of rank as "essential".

| Objectives | Per cent of teachers reporting | | | |
|--|--------------------------------|-----------|----------|---------------|
| | Essential | Desirable | Doubtful | Not necessary |
| 1. To develop the idea of cooperation among the boys and others in the community..... | 63.6 | 36.4 | 0 | 0 |
| 2. To develop a convenient laboratory for group instruction..... | 50.0 | 45.4 | 4.6 | 0 |
| 3. To increase interest in the study of the productive skills of an enterprise..... | 45.5 | 54.5 | 0 | 0 |
| 4. To give experience in the production and management of enterprises of a farm unit size..... | 36.4 | 54.5 | 9.1 | 0 |
| 5. To introduce a potential enterprise into a community..... | 36.3 | 40.9 | 22.8 | 0 |
| 6. To give participation experience in the mechanics of marketing..... | 22.8 | 63.6 | 9.0 | 4.6 |
| 7. To improve the quality of an enterprise in the community..... | 14.4 | 85.6 | 0 | 0 |
| 8. To earn money for the local Future Farmer Association Chapter..... | 9.1 | 72.7 | 18.2 | 0 |
| 9. To demonstrate to the farmers of the community the correct production procedure in an enterprise..... | 9.1 | 50.0 | 36.3 | 4.6 |
| 10. To gain publicity for the Future Farmer Association Chapter..... | 4.6 | 45.4 | 31.8 | 18.2 |
| 11. To set up a comparison of two or more production practices..... | 0 | 27.3 | 59.1 | 13.6 |

cent "doubtful".

Many of our public men recognize the importance of this type of instruction to the farm youth of the nation.

Senator Arthur Capper (1) made the following statement:

"But perhaps the biggest thing about vocational agriculture and the Future Farmers of America is that it is making these fine junior farm citizens organization minded. My friends, the hope of agriculture is in organization. The young farmers of this organization are conducting the affairs of their national organization with intelligence, dignity, and poise which must win the commendation of every thinking man or woman".

According to Humphreys (2) "Human knowledge and experience in agriculture is increasing, needs and comforts are multiplying, and the use of machinery is gradually shifting the burden from the farmer's back to his mental faculties. In a word, a new atmosphere is settling around the farmer. In the past, farmers have been unmindful of the growing tendency of the interdependence of human individuals and the necessity of cooperation in rural life".

"To develop a convenient laboratory for group instruction" ranked second as most "essential" by those reporting. It is apparent that the successful teacher will use the

cooperative group project as a teaching device in that its close proximity to the school building makes it invaluable to use as a method in teaching the skills involved in the business of farming. Ninety-five per cent of the teachers reporting ranked this objective "essential" or "desirable".

The objective that ranked third is, "To increase interest in the study of the productive skills of an enterprise". According to Kilpatrick(4) "With interest, just as any keen edged tool, for those who know not how to use it, there are dangers; but without it only bungling work can be done--no master piece of teaching is possible".

The cooperative group project attracts the boy's interest. He is given opportunity to work with living plants and animals in a natural setting. He is a partner in a cooperative venture. There is the possibility of making money. All this tends to develop an interest among the boys and presents an excellent opportunity for the teaching of productive skills. Perhaps these are some of the things the teachers had in mind when they reported this objective as one of the most important of the entire list.

"To give experience in the production and management of enterprises of a farm unit size" ranked fourth in importance by those reporting, 36.4 per cent marking "essential" and 54.5 "desirable".

Educators in vocational education have long recognized the need of making projects in vocational agriculture as near a farm unit size as is practicable. The large projects of this nature offer a challenge to the student's ability as a manager.

The objective ranking fifth is, "To introduce a potential enterprise into a community". The cooperative group project offers excellent opportunity for the Future Farmer Chapter to introduce into the community the type of farm enterprise that may prove profitable to the farmers in that locality.

"To give participation experience in the mechanics of marketing" ranked sixth and was rated "essential" by 22.8 per cent and "desirable" by 63.6 per cent of those reporting. Taylor (5) makes the following comment regarding the teaching of cooperative marketing to farm youth: "The Cooperative Tobacco Growers Association operating in this state with a combined membership of 95,000 growers, failed because the members never had the opportunity to learn the possibilities and limitations of a cooperative marketing association and because the directors who were elected from their number did not understand the fundamentals of marketing, of business organization, and of business direction.

Cooperative members of the next generation should be freed from this handicap".

The cooperative group project gives an excellent opportunity to teach the principles of cooperative marketing as the students are actually engaged in the market processes of buying and selling from the beginning on through to the close of the project.

"To improve the quality of an enterprise in the community" ranked seventh among the list of the objectives. Eighty-five per cent checked "desirable" and 14.4 per cent "essential". The cooperative group project is conducted under close supervision and direction of the vocational teacher and those approved practices that appear profitable can be put into practice without interference from the outside. Production skills used in the group project are often carried over to the home farm through individual projects and by personal contact of farmers with the group projects in operation.

"To earn money for the Future Farmer Association Chapter ranked eighth--seventy-two per cent rating it "desirable". If the chapter is to be active and develop an efficient program, funds are necessary for its operation. Many chapters use the cooperative group project as a source

of revenue to finance the activities of this junior farm group.

"To demonstrate to the farmers of the community the correct production procedure in an enterprise" was checked "essential" by only 9.1 per cent of those reporting. Fifty per cent stated that it was "desirable", 36.3 "doubtful", and 4.6 per cent "not necessary". It is evident that the group was willing to rate this as one of the goals of the co-operative group project.

"To gain publicity for the Future Farmer Association Chapter" was rated in tenth place but the group was about equally divided between "essential" or "desirable" and "doubtful" or "not necessary".

Publicity for the Future Farmer Association Chapter will be a natural outgrowth for the chapter that develops a strong program of individual and cooperative group projects. A worth while program will develop publicity without any special promotion on the part of the teacher or his students.

The objective rating last, "To set up a comparison of two or more production practices" was rated either "doubtful" or "undesirable" by more than 72 per cent of those reporting. It must be kept in mind that the place of the cooperative group project is in the demonstration of approved farm

and management of the group project" ranked first.

The project is not truly vocational unless the students get actual experience in the doing of the job. They learn to cooperate by pooling their money, time, and ability in a common enterprise.

The second method, "Students and teacher work out a plan to cooperatively finance the group project" was rated "excellent" by more than 80 per cent of those reporting. Methods of financing the group project are presented under the eighth objective, "To earn money for the Future Farmer Association Chapter.

"Students cooperatively buy feed and stock", and "Students market cooperatively" ranked third and fourth respectively. A brief editorial from Wallace's Farmer(7) makes the following statement regarding cooperation: "We have been a little doubtful about teaching cooperative marketing in our secondary schools. A report from a vocational agricultural class in Illinois makes us more hopeful. Instead of discussing the Farm Board's methods, the instructor suggested that the boys in the animal husbandry class go together in handling broilers. They each bought from the same hatchery, purchased commercial feed together, and planned to sell on the same day. By the time these boys sell their broilers

they will have learned much about pooling, cooperative buying, delegating authority, and a number of other things. With this background, they will be ready to study the local cooperative and other cooperative projects with more understanding".

The writer believes that those students who actually engage in the marketing processes will be better equipped to understand and operate local cooperative marketing associations when they become mature farm operators.

The fifth method, "Students and teacher cooperatively plan and budget a group project" was rated "excellent" by 68.2 per cent, "good" by 27.3 per cent and "doubtful" by only 4.5 per cent. If the project is to be successful, each item of expense should be estimated in advance, possible returns should be computed and budget material worked into a definite plan of procedure. This will require clear thinking and definite planning by each individual of the group. Such a detailed budget at the beginning of the project will give each member a complete picture of what is to follow. Feed and other materials may be purchased in proper amounts and at the most opportune times.

"Students share returns cooperatively" was ranked in sixth place. Profit sharing is one of the principles of the

practices that have been proved to be successful practices through years of experience by agricultural experiment stations.

Per cent of teachers evaluating types of projects best suited to gain each objective. In Table 2 the objectives are ranked according to the type of project best suited to gain each objective. In all cases but three, the type of projects, "complete cycle" and "continuation" were chosen by a majority of the teachers reporting.

"Vary with economic trends" was chosen as most suitable type of project for the objective; "To earn money for the local Future Farmer Association Chapter by 72.7 per cent of those reporting.

"Single phase" was ranked as most suitable to use in gaining the objectives, "To set up a comparison of two or more production practices", and "To give participation experience in the mechanics of marketing".

Per cent of teachers evaluating the methods used in gaining the first objective, "To develop the idea of cooperation among the boys and others in the community". There were ten methods listed under this objective and all were rated either "excellent" or "good" by a majority of those reporting. In Table 3 the methods are ranked under the factor "excellent". "Students cooperatively share all labor

Table 2. Per cent of teachers evaluating types of projects best suited to gain each objective.

| Objectives | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|---------------------------|--------------|
| | Complete cycle | Continuation | Vary with economic trends | Single phase |
| 1. To develop a convenient laboratory for group instruction..... | 63.6 | 27.3 | 4.6 | 4.5 |
| 2. To give experience in the production and management of enterprises of a farm unit size..... | 59.1 | 9.0 | 18.3 | 13.6 |
| 3. To increase interest in the study of the productive skills of an enterprise..... | 57.1 | 19.0 | 14.4 | 9.5 |
| 4. To demonstrate to the farmers of the community the correct production procedure in an enterprise..... | 54.5 | 18.2 | 9.0 | 18.2 |
| 5. To introduce a potential enterprise into a community..... | 50.0 | 36.4 | 4.6 | 9.0 |
| 6. To improve the quality of an enterprise in a community..... | 36.5 | 45.5 | 9.0 | 9.0 |
| 7. To develop the idea of cooperation among the boys and others in the community..... | 36.4 | 36.4 | 13.6 | 13.6 |
| 8. To gain publicity for the Future Farmer Association Chapter..... | 35.0 | 25.0 | 25.0 | 15.0 |
| 9. To set up a comparison of two or more production practices..... | 25.0 | 15.0 | 20.0 | 40.0 |
| 10. To give participation experience in the mechanics of marketing..... | 4.6 | 9.0 | 40.9 | 45.5 |
| 11. To earn money for the local Future Farmer Association Chapter..... | 4.5 | 9.1 | 72.7 | 13.7 |

Table 3. Per cent of teachers evaluating the methods used in gaining the first objective, "To develop the idea of cooperation among the boys and others in the community".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Students cooperatively share all labor and management of the group project..... | 82.0 | 9.0 | 9.0 | 0 |
| 2. Students and teacher work out a plan to cooperatively finance the group project..... | 80.0 | 10.0 | 5.0 | 5.0 |
| 3. Students cooperatively buy feed and stock | 79.6 | 20.4 | 0 | 0 |
| 4. Students market cooperatively | 72.7 | 27.3 | 0 | 0 |
| 5. Students and teacher cooperatively plan and budget a group project..... | 68.2 | 27.3 | 4.5 | 0 |
| 6. Students share returns cooperatively | 54.6 | 45.4 | 0 | 0 |
| 7. Students study bulletins, text books, and trade papers on consumer and producer cooperatives..... | 42.8 | 52.4 | 4.8 | 0 |
| 8. The group cooperatively purchases purebred stock or certified seed..... | 36.4 | 63.6 | 0 | 0 |
| 9. Develops teams and contestants for competing with other groups..... | 31.8 | 50.0 | 13.7 | 4.5 |
| 10. Shows stock at fairs that is owned by the group..... | 27.3 | 45.4 | 27.3 | 0 |

they will have learned a lot about pooling, cooperative buying, delegating authority, and a number of other things. With this background, they will be ready to study the local cooperative and other cooperative projects with more understanding".

The writer believes that those students who actually engage in the marketing processes will be better equipped to understand and operate local cooperative marketing associations when they become mature farm operators.

The fifth method, "Students and teacher cooperatively plan and budget a group project" was rated "excellent" by 68.2 per cent, "good" by 27.3 per cent and "doubtful" by only 4.5 per cent. If the project is to be successful, each item of expense should be estimated in advance, possible returns should be computed and budget material worked into a definite plan of procedure. This will require clear thinking and definite planning by each individual of the group. Such a detailed budget at the beginning of the project will give each member a complete picture of what is to follow. Feed and other materials may be purchased in proper amounts and at the most opportune times.

"Students share returns cooperatively" was ranked in sixth place. Profit sharing is one of the principles of the

and management of the group project" ranked first.

The project is not truly vocational unless the students get actual experience in the doing of the job. They learn to cooperate by pooling their money, time, and ability in a common enterprise.

The second method, "Students and teacher work out a plan to cooperatively finance the group project" was rated "excellent" by more than 80 per cent of those reporting. Methods of financing the group project are presented under the eighth objective, "To earn money for the Future Farmer Association Chapter.

"Students cooperatively buy feed and stock" and "Students market cooperatively" ranked third and fourth respectively. A brief editorial from Wallace's Farmer(7) makes the following statement regarding cooperation: "We have been a little doubtful about teaching cooperative marketing in our secondary schools. A report from a vocational agricultural class in Illinois makes us more hopeful. Instead of discussing the Farm Board's methods, the instructor suggested that the boys in the animal husbandry class go together in handling broilers. They each bought from the same hatchery, purchased commercial feed together, and planned to sell on the same day. By the time these boys sell their broilers

cooperative movement. Each student should be given an opportunity to figure his share of the returns on investment. Losses are also shared in the same manner.

"The study of bulletins, text books, and trade papers on consumer and producer cooperatives" was ranked in seventh place by those reporting. We may think of these methods as only a part of the complete teaching process. Theory and practice must go together. These are largely classroom methods and without the use of actual experience the level of learning would remain low. For example the author believes it is one thing to study about shearing sheep, tying and marketing wool, and quite another experience to actually handle and shear the sheep, place the wool into the tying box, ship it in large burlap sacks, and pool the wool along with many others, receiving part payment in cash and a warehouse receipt for the remainder of the wool which is to be held in storage and sold at some future date. These are experiences that cannot be learned completely from a textbook, bulletin or trade paper. However, with these aids, the speed and efficiency of the learning process may be greatly increased.

The eighth method, "The group cooperatively purchase purebred stock or certified seed", was rated either

"excellent" or "good" by all those reporting. Improvement in any strain of crop plants or animals is brought about most rapidly by the use of superior parents. Introduction of certified seed or purebred animals may be brought about most rapidly through the cooperative purchase of prebred individuals or strains by members of the Future Farmer Association Chapter.

The following quotation taken from a radio broadcast by the Winfield Future Farmer Association Chapter over station KGGF, Coffeyville, Kansas, January, 1937, was given by John Lowe, teacher and local advisor: "We have no set method of buying livestock. We buy livestock to the best advantage to the boys. I will illustrate by telling you how we purchased our breeding ewes for the past seven years. We have purchased three car loads through the Producers Commission Association, one load through the Intermountain Livestock Marketing Association at Denver. One load was purchased directly from the range, two loads were purchased locally or in cooperation with local shippers. Beef calves and seed potatoes are also bought for home projects in car load lots. This cooperative buying insures a uniform lot, saves time and money, and teaches cooperation. Less risk and more favorable credit is available for this kind of buying. Notes

and chattels showing ample security are taken and the projects carefully planned by the boys then carried out under careful supervision of the instructor".

There is now noticeable evidence of the improvement of the herds and flocks of Cowley County due in a large measure to the excellent experience and training made available through the cooperative activities of the Winfield Chapter of the Future Farmers of America.

"The development of teams and contestants for competing with other groups" and "showing stock at fairs that is owned by the group" were rated ninth and tenth respectively by the group reporting. Students that own their livestock individually or cooperatively are usually eager to exhibit the product of their labor. Field days, fairs, and livestock shows and sales give excellent opportunity for exhibitions of this nature.

Per cent of teachers evaluating the type of project best suited to gain the first objective, "To develop the idea of cooperation among the boys and others in the community". Table 4 lists the methods according to the type of project best suited to gain this objective. "single phase" ranked highest among the four types listed.

Table 4. Per cent of teachers evaluating the type of project best suited to gain the first objective, "To develop the idea of cooperation among the boys and others in the community".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|----------------|--------------|---------------------------|
| | Single phase | Complete cycle | Continuation | Vary with economic trends |
| 1. Student share returns cooperatively | 52.4 | 9.6 | 19.0 | 19.0 |
| 2. Students cooperatively buy feed and stock | 49.9 | 13.7 | 18.7 | 18.2 |
| 3. Students and teacher work out a plan to cooperatively finance the group project | 47.6 | 19.0 | 19.0 | 14.4 |
| 4. Students and teacher cooperatively plan and budget a group project | 36.4 | 27.2 | 22.2 | 13.7 |
| 5. Students market cooperatively | 36.4 | 18.2 | 18.2 | 27.2 |
| 6. Show stock that is owned by the group | 36.4 | 36.4 | 18.2 | 9.0 |
| 7. Develop teams and contestants for competing with other groups | 33.3 | 28.6 | 33.3 | 4.8 |
| 8. Students cooperatively share all labor and management of the group project | 31.9 | 22.7 | 22.7 | 13.7 |
| 9. Study bulletins, text books, and trade papers on consumer and producer cooperatives | 19.0 | 28.6 | 38.1 | 14.3 |
| 10. The group cooperatively purchases purebred stock or certified seed | 9.0 | 50.0 | 36.5 | 4.5 |

Evaluation of methods used in gaining the second objective, "To develop a convenient laboratory for group instruction". There are ten methods listed under this objective. The first three methods, "Arrange pens conveniently for handling livestock", "Locate fields near town", and "Locate equipment within two or three blocks of the high school building", were ranked either "excellent" or "good" by 95 per cent of those reporting. It is apparent that if the teacher is to use a cooperative group project profitably as a teaching device, he must have livestock, equipment, and fields close at hand. In many cases these facilities are found within a few blocks of the school building. Cost of transportation is an important factor when yards and fields are not within an easy walking distance. On the other hand, livestock equipment and feed lots should be of sufficient distance away from the school building and residential areas that they will not become a nuisance to patrons in the community.

The arrangement of buildings, feed lots, and labor saving equipment should be so planned that routine chore labor might be performed with a minimum amount of time.

The fourth method, "Students should perform all labor and management" was rated "excellent" by 54.5 per cent,

Table 5. Per cent of teachers evaluating the methods used in gaining the second objective, "To develop a convenient laboratory for group instruction".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Arrange pens conveniently for handling livestock | 77.3 | 18.2 | 4.5 | 0 |
| 2. Locate fields near town | 68.2 | 27.3 | 4.5 | 0 |
| 3. Locate equipment within two or three blocks of the high school building. | 68.2 | 27.3 | 0 | 4.5 |
| 4. Students should perform all labor and management. | 54.5 | 31.8 | 13.7 | 0 |
| 5. School purchase land and build equipment | 50.0 | 27.3 | 22.7 | 0 |
| 6. Rent a farm and equipment on edge of town | 22.7 | 45.5 | 22.7 | 9.1 |
| 7. School district purchase land and build equipment and chapter buy from school through a per cent of project returns. | 18.2 | 31.8 | 45.5 | 4.5 |
| 8. Future Farmer Chapter buy land and build equipment... | 9.5 | 14.3 | 52.3 | 23.8 |
| 9. Future Farmer Chapter lease a farm and equipment. | 4.5 | 18.2 | 72.8 | 4.5 |
| 10. Locate equipment, lots, fields etc., on a farm several miles from town. | 0 | 0 | 22.7 | 77.3 |

"good" by 31.8 per cent, and "doubtful" by only 13.7 per cent of those reporting. The projects are conducted close to school, thus furnishing a laboratory which is always available for teaching purposes. They are of a farm unit size and therefore give actual experience in commercial production. The student's control of the enterprise with a possible chance of profit has made it invaluable as a means of motivation.

"The school purchase land and build equipment" was listed as the fifth method and marked either "excellent" or "good" by 77.3 per cent of those reporting. This plan adds permanency to the program and permits continuation projects to be conducted year after year with the same equipment. Such projects as herd improvement, purebred sires, certified seed, introduction of a potential enterprise, etc., may be inaugurated with greater certainty if definite equipment is available for the chapter to use at all times. The problem of increased rental charges is also eliminated.

The sixth method, "Rent a farm and equipment on the edge of town" was rated 68.2 per cent "excellent" and "good" while 31.8 per cent rated it "doubtful" or "undesirable".

This method is especially desirable where a cooperative group project is being conducted in field crops. Under this type of set-up, equipment, lots, and fields are usually available at a fixed price of cash rental.

A large number of Kansas high schools are operating or have operated under this plan, thus permitting them to begin with very little operating and investment capital.

Method number seven is similar to that of five with the exception that a plan be used to permit the Future Farmer Chapter to buy equipment and buildings through project returns.

"Future Farmer Association buy land and build equipment" was listed as the eighth method. This plan similar to that of number seven would add permanency to the project program. But without the aid of the school district in providing funds at a low rate of interest and the support and interest of its patrons, this type of program would not prove successful.

The ninth method, "The Future Farmer Association lease a farm and equipment" was rated "excellent" or "good" by less than one-fourth of those reporting. Seventy-two per

cent checked it "doubtful". Such problems as size of farm, kind and location of land, provision for labor and management, type of farming to be followed, plan of financing, source of operating and investment capital would make this plan more difficult of operation than any of the foregoing plans.

"Locate equipment and lots on a farm several miles from town" was rated last. The cost of transportation and the time consumed on the road going to and from the project make this plan impracticable.

A study of Table 6 shows that the teachers reporting chose the "complete cycle" and the "continuation" as the types of projects best suited to gain the second objective.

Evaluation of methods used in gaining the third objective, "To increase interest in the study of the productive skills of an enterprise". This objective was rated in third place by those teachers reporting. Eleven methods are listed in Table 7 and are ranked according to the factor "excellent". More than 80 per cent of all teachers reporting ranked all eleven methods as either "excellent" or "good".

Each enterprise is made up of managerial and operative jobs. If a farmer is to be successful, he must understand

Table 6. Per cent of teachers evaluating the type of project best suited to gain the second objective, "To develop a convenient laboratory for group instruction".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Continuation | Single phase | Vary with economic trends |
| 1. Students should perform all labor and management..... | 55.6 | 22.2 | 22.7 | 0 |
| 2. School purchase land and build equipment..... | 50.0 | 50.0 | 0 | 0 |
| 3. School district purchase land and build equipment and chapter buy from school through a per cent of project returns..... | 47.4 | 52.6 | 0 | 0 |
| 4. Locate equipment within two or three blocks of the high school building..... | 47.4 | 36.8 | 10.5 | 5.3 |
| 5. Locate fields near town..... | 43.8 | 37.5 | 12.5 | 6.2 |
| 6. Arrange pens conveniently for handling stock..... | 40.0 | 45.0 | 5.0 | 10.0 |
| 7. Future Farmer Association buy land and build equipment..... | 35.0 | 45.0 | 10.0 | 10.0 |
| 8. Future Farmer Association lease a farm and equipment..... | 35.0 | 40.0 | 20.0 | 5.0 |
| 9. Rent a farm and equipment on edge of town..... | 28.6 | 47.6 | 9.5 | 14.3 |
| 10. Locate lots and equipment on a farm several miles from town..... | 21.0 | 21.0 | 31.6 | 26.4 |

Table 7. Per cent of teachers evaluating the methods used in gaining the third objective, "To increase interest in the study of the productive skills of an enterprise".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Students feed livestock and care for plants | 91.0 | 0 | 9.0 | 0 |
| 2. Students observe and practice sanitation and control of plant and animal diseases | 86.5 | 9.0 | 4.5 | 0 |
| 3. Student participation in such special skills as pruning, culling, docking etc | 86.5 | 9.0 | 4.5 | 0 |
| 4. Students participate in the budgeting and planning of the group project | 79.6 | 20.4 | 0 | 0 |
| 5. Students judge the progress of the project indicating probable time of marketing | 79.6 | 20.4 | 0 | 0 |
| 6. Students select stock, seed, or plants needed to conduct the project | 63.6 | 36.4 | 0 | 0 |
| 7. Students market their products | 63.7 | 31.8 | 4.5 | 0 |
| 8. Students cooperatively plan and finance their own projects | 63.6 | 19.4 | 8.5 | 4.5 |
| 9. Students construct house or buildings, equipment, fences and labor saving devices | 59.2 | 31.8 | 9.0 | 0 |
| 10. Students harvest products, sort, grade, and process for market | 54.6 | 45.4 | 0 | 0 |
| 11. Students exhibit products at fairs | 50.0 | 31.8 | 18.2 | 0 |

Table 8. Per cent of teachers evaluating the type of project best suited to gain the third objective, "To increase interest in the study of the productive skills of an enterprise".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Continuation | Single phase | Vary with economic trends |
| 1. Students observe and practice sanitation in the control of animal and plant diseases..... | 65.0 | 30.0 | 5.0 | 0 |
| 2. Students harvest products, sort, grade, and process for market..... | 60.0 | 5.0 | 30.0 | 5.0 |
| 3. Students participate in such special skills as pruning, culling, docking etc..... | 60.0 | 20.0 | 15.0 | 5.0 |
| 4. Students construct house or buildings, equipment, fences, and labor saving devices..... | 58.0 | 16.0 | 26.0 | 0 |
| 5. Students select stock, seed, or plants needed to conduct the project..... | 55.0 | 5.0 | 30.0 | 10.0 |
| 6. Students actually do the feeding and care of livestock and the culture of plants..... | 55.0 | 15.0 | 30.0 | 0 |
| 7. Students market their products | 45.0 | 5.0 | 35.0 | 15.0 |
| 8. Students participate in the budgeting and planning of the group project..... | 45.0 | 15.0 | 35.0 | 5.0 |
| 9. Students exhibit their products at fairs | 40.0 | 20.0 | 25.0 | 15.0 |
| 10. Students judge progress of project indicating probable time of marketing..... | 30.0 | 5.0 | 55.0 | 10.0 |
| 11. Students cooperatively plan and finance their own project..... | 30.0 | 15.0 | 40.0 | 15.0 |

and use the most efficient skills in performing each job. The cooperative group project that is conducted through a complete cycle gives splendid opportunity for each boy to get first hand experience in the productive skills of the enterprise being handled. The boys interest grows after he is given opportunity to try his skill in various operative jobs. He then can see and understand the need of further information to increase his efficiency in the skills of the enterprise.

The project being close to the class room and consisting of growing plants or animals makes available a convenient laboratory that is productive of farm skills. Such methods as sanitation and control of disease, pruning, culling, docking, marketing, selection of seed or livestock, financing, construction of houses and equipment, budgeting and planning, harvesting, and preparing products for market, were among the list of methods suggested for use in gaining the third objective.

The type of project best suited to gain this objective was that of the "complete cycle" followed by "single phase"; "continuation", and "vary with economic trends" in the order named.

Evaluation of methods used in gaining the fourth objective, "To give experience in the production and management of enterprises of a farm unit size". This objective infers that farm enterprises vary in size, both in acres, and in case of livestock, in number of animals handled in one unit. In the questionnaire, teachers were asked to choose the size of enterprise, either in acres or number of animals, that they believed to be most nearly a "farm unit size" suitable for a cooperative group project to be handled by high school boys. They were given just four choices for each enterprise such as 1-5; 6-10; 11-20; and 21 or more. For crop enterprises the choice was in "acres" and for livestock in "number of animals".

A summary of this material is found in Tables 9 - 12 inclusive. It may be noted in Table 9 that more than three-fourths of those teachers reporting indicated that projects of a "farm unit size" should not be more than five acres in the following crop enterprises: tomatoes, a vegetable garden, sweet corn, a fruit orchard, vineyard, potatoes, broom corn, and pop corn. The other 25 per cent of the teachers reporting indicated that the crop enterprises listed above might be as large as six to ten acres.

In the case of such field crops as winter vetch,

Table 9. Per cent of teachers evaluating the size of a cooperative group project necessary to
 "Give experience in the production and management of enterprises of a farm unit size".

| Crop enterprise | : | Number of acres needed | | | |
|---|---|------------------------|---------------|---------------------|-----------------------|
| | | One to five | Six to ten | Eleven to twenty | Twenty-one or more |
| 1. Growing tomatoes..... | : | 94 | 0 | 0 | 6 |
| 2. Growing a vegetable garden..... | : | 94 | 0 | 0 | 6 |
| 3. Growing sweet corn..... | : | 90 | 10 | 0 | 0 |
| 4. Growing a fruit orchard..... | : | 88 | 12 | 0 | 0 |
| 5. Growing a vineyard..... | : | 88 | 12 | 0 | 0 |
| 6. Growing potatoes..... | : | 80 | 20 | 0 | 0 |
| 7. Growing sorghums for brooms..... | : | 79 | 14 | 7 | 0 |
| 8. Growing pop corn..... | : | 72 | 22 | 0 | 6 |
| 9. Growing winter vetch..... | : | 66 | 11 | 17 | 6 |
| 10. Growing lespedeza..... | : | 58 | 27 | 10 | 5 |
| 11. Growing cowpeas and soybeans..... | : | 42 | 38 | 10 | 10 |
| 12. Growing sweet clover for seed, pasture, or soil improvement..... | : | 28 | 39 | 33 | 0 |
| 13. Growing alfalfa for hay or seed..... | : | 21 | 58 | 16 | 5 |
| 14. Growing sorghums for hay..... | : | 18 | 53 | 23 | 6 |
| 15. Growing sorghums for silage..... | : | 10 | 37 | 48 | 5 |
| 16. Growing corn for silage..... | : | 10 | 38 | 42 | 10 |
| 17. Growing rye, oats, or barley..... | : | 5 | 35 | 40 | 20 |
| 18. Growing of corn in group project..... | : | 5 | 32 | 42 | 21 |
| 19. Growing sorghums for grain..... | : | 0 | 50 | 45 | 5 |
| 20. Growing wheat in group project..... | : | 0 | 19 | 19 | 62 |

lespedeza, cowpeas, soybeans, sweet clover, alfalfa, and sorghums for hay, a majority of the group indicated that the project should not be larger than ten acres. For such crops as sorghums and corn for silage, corn, rye, oats, barley, and sorghums for grain, the group range was approximately 35 per cent for six to ten acres; 40 per cent for eleven to twenty acres; and the remainder either higher or lower.

In the case of wheat, 62 per cent selected twenty-one or more acres as the most suitable "farm unit size" for a cooperative group project.

If the enterprise is set-up on the basis of a "farm unit size", equipment, machinery, labor, operating, and investment capital will compare more favorably with the actual conditions in the enterprise being conducted by the farmers in the community. A miniature project may have many of the elements of a larger project but too often a reduction in possible returns or of financial risk involved lessens the effort on the part of the students and the teacher. A successful cooperative group project will always require considerable effort on the part of those concerned.

Table 10 summarizes the "type of project" most applicable for each crop enterprise listed. A majority of teachers chose "complete cycle" followed in order by "single phase",

Table 10. Per cent of teachers evaluating the type of project necessary to gain the fourth objective, "To give experience in the production and management of enterprises of a farm unit size".

| Crop enterprise | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Single phase | Continuation | Vary with economic trends |
| 1. Growing sorghums for brooms..... | 66 | 34 | 0 | 0 |
| 2. Growing rye, oats, or barley..... | 65 | 20 | 0 | 15 |
| 3. Growing of corn..... | 65 | 15 | 0 | 20 |
| 4. Growing wheat..... | 65 | 15 | 5 | 15 |
| 5. Growing pop corn..... | 58 | 32 | 0 | 10 |
| 6. Growing sweet corn..... | 55 | 33 | 0 | 11 |
| 7. Growing tomatoes..... | 55 | 28 | 0 | 17 |
| 8. Growing a vegetable garden..... | 55 | 28 | 11 | 6 |
| 9. Growing soybeans and cowpeas..... | 50 | 33 | 11 | 6 |
| 10. Growing sorghums for silage..... | 50 | 25 | 5 | 20 |
| 11. Growing potatoes..... | 50 | 25 | 10 | 15 |
| 12. Growing grain sorghums..... | 50 | 18 | 9 | 23 |
| 13. Growing sorghums for hay..... | 47 | 47 | 6 | 0 |
| 14. Growing winter vetch..... | 44 | 33 | 17 | 6 |
| 15. Growing a vineyard..... | 44 | 25 | 31 | 0 |
| 16. Growing corn for silage..... | 43 | 26 | 23 | 8 |
| 17. Growing a fruit orchard..... | 41 | 23 | 30 | 6 |
| 18. Growing sweet clover for seed, pasture, etc..... | 41 | 18 | 23 | 18 |
| 19. Growing alfalfa for hay or seed..... | 39 | 22 | 33 | 6 |
| 20. Growing lespedeza..... | 36 | 29 | 23 | 2 |

Table 11. Per cent of teachers evaluating the size of a cooperative group project necessary to "Give experience in the production and management of enterprises of a farm unit size".

| Livestock enterprises | Per cent of teachers reporting | | | |
|--|--------------------------------|------------|------------------|--------------------|
| | One to five | Six to ten | Eleven to twenty | Twenty-one or more |
| 1. Raising a swine breeding herd | 62 | 29 | 9 | 0 |
| 2. Raising a dairy herd for milk | 60 | 30 | 10 | 0 |
| 3. Raising a beef breeding herd | 30 | 45 | 25 | 0 |
| 4. Raising a breeding flock of turkeys | 20 | 25 | 30 | 25 |
| 5. Fattening beef cattle for market | 14 | 50 | 18 | 18 |
| 6. Fattening swine for market | 5 | 27 | 50 | 18 |
| 7. Raising a ewe flock | 5 | 10 | 75 | 10 |
| 8. Fattening lambs for market | 0 | 0 | 38 | 62 |
| 9. Fattening capons for market | 0 | 0 | 16 | 84 |
| 10. Fattening turkeys for market | 0 | 0 | 10 | 90 |
| 11. Fattening broilers for market | 0 | 0 | 0 | 100 |
| 12. Raising a poultry flock for eggs | 0 | 0 | 0 | 100 |

Table 12. Per cent of teachers evaluating the size of the cooperative group project necessary to "Give experience in the production and management of enterprises of a farm unit size".

| Livestock enterprises | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Single phase | Continuation | Vary with economic trends |
| 1. Raising a dairy herd for milk | 61 | 0 | 39 | 0 |
| 2. Raising a breeding flock of turkeys | 60 | 0 | 40 | 0 |
| 3. Raising a beef breeding herd | 58 | 0 | 42 | 0 |
| 4. Raising a poultry flock for eggs | 57 | 0 | 43 | 0 |
| 5. Raising a ewe flock | 50 | 5 | 45 | 0 |
| 6. Raising a swine breeding herd | 48 | 4 | 48 | 0 |
| 7. Fattening turkeys for market | 34 | 47 | 0 | 19 |
| 8. Fattening broilers for market | 30 | 55 | 0 | 15 |
| 9. Fattening capons for market | 25 | 65 | 0 | 10 |
| 10. Fattening swine for market | 10 | 70 | 10 | 10 |
| 11. Fattening lambs for market.. | 10 | 70 | 10 | 10 |
| 12. Fattening beef cattle for market | 9 | 68 | 5 | 18 |

"vary with economic trends", and "continuation".

The most suitable "farm unit size" for livestock enterprises is summarized in Table 11. In the breeding enterprises, such as raising a dairy herd or a swine breeding herd, more than 60 per cent of the group chose one to five animals while 30 per cent indicated six to ten animals and the remainder eleven to twenty animals. In the case of a beef breeding herd, 30 per cent checked one to five animals; 45 per cent six to ten; and 25 per cent eleven to twenty animals.

For such projects as raising a breeding flock of turkeys, fattening beef cattle for market, fattening swine for market, and growing a flock of breeding ewes, more than 50 per cent of the group indicated that the project should be larger than ten individuals.

All teachers reported that broiler and egg production projects should be larger than twenty-one individuals in size. Also 62 to 90 per cent of the teachers reporting projects such as fattening lambs, turkeys, and capons, should be larger than twenty-one individuals.

Table 12 shows the per cent of teachers reporting on the type of project best suited for each enterprise. The majority of the group chose the "complete cycle" as most

suitable for six of the livestock enterprises that have to do with the breeding of a flock or herd. The remainder chose "continuation". For production and fattening type projects 55 to 70 per cent of the group selected "single phase" while the remainder chose "vary with economic trends".

Per cent of teachers evaluating methods used in gaining the fifth objective, "To introduce a potential enterprise into a community". Nine methods are listed in Table 13. The first six were checked "excellent" by a majority of the teachers reporting.

The wise teacher will consult his school board, principal, or superintendent and seek their advice before starting a cooperative group project. Without the assistance and cooperation of the school authorities, the project would be doomed to failure.

One can always find superior farm operators in every agricultural community. These men are often referred to as "master farmers" since they have learned how to properly use the best agricultural practices through their many years of farm experience. The teacher will find it profitable to visit with these men, to study their farm program, and to seek their counsel regarding all his agricultural projects. In many cases these farmers will be already using the

Table 13. Per cent of teachers evaluating the methods used in gaining the fifth objective, "To introduce a potential enterprise into a community".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Teacher and Future Farmer Association get approval of the school board..... | 86.3 | 9.2 | 4.5 | 0 |
| 2. Teacher and Future Farmer Association Chapter get approval of the school principal and superintendent... | 86.3 | 9.2 | 0 | 4.5 |
| 3. Teacher and group work out a budget together showing cost of production and probable returns of the enterprise..... | 81.8 | 18.2 | 0 | 0 |
| 4. Get approval and support of the parents and boys involved..... | 76.2 | 23.8 | 0 | 0 |
| 5. Teacher and group together set up the advantages of such an enterprise to the community..... | 63.6 | 27.3 | 9.1 | 0 |
| 6. Get approval and support of the majority members of the Future Farmer Association..... | 57.2 | 38.0 | 4.8 | 0 |
| 7. Teacher and members of the Future Farmer Association visit successful operators of this enterprise in the community and seek their counsel..... | 50.0 | 45.5 | 4.5 | 0 |
| 8. Get approval and support of the agricultural committee of the chamber of commerce or civic club..... | 18.2 | 41.0 | 21.6 | 9.2 |
| 9. Get approval and support of the farm organizations in the community..... | 9.2 | 50.0 | 31.6 | 9.2 |

enterprises that need to be more generally introduced into the community.

Horace Newell, one of these farmers, made the following remark at the time the Wakefield Chapter introduced a pure-bred strain of Hampshire sheep into Clay County: "I have made as much money with sheep as with any other livestock enterprise during the past twenty-five years of farm experience on this farm".

It is apparent from Table 13 that the teachers reporting believed it a sound practice to plan and budget the enterprise before starting the project. It is doubtful whether the project should be undertaken if financial returns seem improbable. It is certainly to be recommended that the group budget, as accurately as possible, the actual production costs and probable returns before starting the project. Losses may sometimes be avoided if a budget is available to guide the students in the buying and selling processes. A budget will permit the group to use feed price cycles and market trends with greater intelligence.

The teacher and group should carefully analyze the enterprise that is about to be introduced into the community. Advantages and disadvantages should be set-up. It can be expected that a number of patrons will oppose any new project

that may be initiated into the farming practice of the community.

Methods eight and nine, "Get approval and support of the agricultural committee of the chamber of commerce or civic club", and "To get approval and support of farm organizations in the community" were rated as doubtful methods by approximately 30 per cent of the teachers reporting. Forty to 50 per cent reported "good" and only 9 to 18 per cent checked the rating factor "excellent".

These committees are often known as "promotion" type and are not to be relied upon as having been trained in the science of agriculture. However, they may be of great service in promoting projects already under way.

Table 14 shows the choice of projects to be used with each method in gaining this objective. The group was about equally divided between "complete cycle" and "vary with economic trends", followed by "single phase" and "continuation" in the order named.

The author is in favor of the type of project, "vary with economic trends" as it is quite important that the first attempt be financially successful since student interest and participation is most easily obtained under these conditions.

Table 14. Per cent of teachers evaluating the type of project best suited to gain the fifth objective, "To introduce a potential enterprise into a community".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Continuation | Single phase | Vary with economic trends |
| 1. Teacher and members of the Future Farmer Association visit successful operators of this enterprise in the community and seek their counsel..... | 42.9 | 14.3 | 23.8 | 19.0 |
| 2. Teacher and group together set up the advantages of such an enterprise to the community..... | 36.8 | 21.0 | 15.8 | 26.4 |
| 3. Get approval and support of the parents of the boys involved..... | 30.0 | 25.0 | 15.0 | 30.0 |
| 4. Get approval and support of the majority members of the Future Farmer Association..... | 30.0 | 15.0 | 25.0 | 30.0 |
| 5. Teacher and Future Farmer Association get approval of school board..... | 23.8 | 33.4 | 28.5 | 14.3 |
| 6. Teacher and Future Farmer Association Chapter get approval of school principal and superintendent..... | 20.0 | 20.0 | 35.0 | 25.0 |
| 7. Get approval and support of the farm organizations in the community..... | 20.0 | 20.0 | 25.0 | 35.0 |
| 8. Teacher and group work out a budget together showing cost of production and probable returns..... | 18.2 | 9.2 | 45.2 | 27.4 |
| 9. Get approval and support of an agricultural committee of the chamber of commerce or civic club..... | 14.4 | 19.0 | 38.0 | 28.6 |

Evaluation of methods used in gaining the sixth objective, "To give participation experience in the mechanics of marketing". Fifteen marketing jobs are listed as methods under this objective. The first three methods, "preparing livestock for shipment", "a study of market cycles and trends", and "sorting and grading products on the farm" were singled out as most important since every teacher reporting checked them either "excellent" or "good".

Methods four to eight inclusive were checked either "excellent" or "good" by more than 70 per cent of those reporting. These five methods included the following: "loading a car for market", "insuring in transit", "selling through commission agent or broker", "grading livestock for shipment", "signing invoice", "chartering car", and "preparing car for loading".

The seven last methods were checked "good" and "excellent" by more than 60 per cent of those reporting, and "doubtful" or "undesirable" by 13 to 28 per cent.

American farmers now fully realize that one of the greatest weaknesses in our system of agriculture is found in our poor marketing practices. However, many good marketing methods have been developed recently. Students and young farmers need experience in these marketing methods.

Table 15. Per cent of teachers evaluating the methods used in gaining the sixth objective,
 "To give participation experience in the mechanics of marketing".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Preparing livestock for shipment | 72.7 | 27.3 | 0 | 0 |
| 2. Studying market cycles and trends | 72.7 | 27.3 | 0 | 0 |
| 3. Sorting and grading products on the farm | 60.8 | 39.2 | 0 | 0 |
| 4. Loading a car for market | 56.6 | 21.7 | 17.4 | 4.3 |
| 5. Insuring in transit | 54.5 | 27.3 | 18.2 | 0 |
| 6. Selling through commission agent or broker | 50.0 | 45.0 | 5.0 | 0 |
| 7. Grading livestock for shipment | 50.0 | 40.9 | 9.1 | 0 |
| 8. Signing invoice | 50.0 | 27.3 | 13.7 | 9.0 |
| 9. Chartering a car | 45.8 | 29.2 | 16.7 | 8.3 |
| 10. Preparing car for loading | 41.7 | 33.3 | 16.7 | 8.3 |
| 11. Inspecting, sampling, and grading | 40.9 | 45.4 | 13.7 | 0 |
| 12. Operating a livestock exchange.. | 23.8 | 42.8 | 28.6 | 4.8 |
| 13. Storing products for market | 22.8 | 54.7 | 18.0 | 4.5 |
| 14. Processing and packing | 22.8 | 40.9 | 27.3 | 9.0 |
| 15. Operating a grain and hay exchange | 19.0 | 47.6 | 28.6 | 4.8 |

Producers and consumers have gradually become separated farther and farther as the country has grown, and better methods of transportation have developed. The larger the gap between producer and consumer of farm products, the more marketing machinery must be relied upon to fill this gap.

The use of the cooperative group project in the buying and selling of farm products offers excellent experience in the mechanics of marketing to young farmers of the community. In such a project, the boys get actual experience which they will use as soon as they enter into the vocation of farming.

Table 16 gives the per cent of teachers reporting on the evaluation of the type of cooperative project best suited with each method used in gaining objective six. "Single phase" ranked first followed by "complete cycle", "continuation", and "vary with economic trends".

Evaluation of methods used in gaining the seventh objective, "To improve the quality of an enterprise in the community". More than 90 per cent of all the methods listed were checked either "excellent" or "good" by all of the teachers reporting, as indicated in Table 17.

Sanitation and control of disease ranked highest, 95 per cent ranking it "excellent". "The use of improved methods in feeding", and "The use of improved cultural

Table 16. Per cent of teachers evaluating the type of project used in gaining the sixth objective, "To give experience in the mechanics of marketing".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Single phase | Continuation | Vary with economic trends |
| 1. Preparing car for loading | 5.3 | 68.4 | 10.6 | 15.7 |
| 2. Loading a car | 5.5 | 66.7 | 11.1 | 16.7 |
| 3. Signing invoice | 5.0 | 65.0 | 10.0 | 20.0 |
| 4. Chartering a car | 10.6 | 63.2 | 15.7 | 10.5 |
| 5. Insuring product in transit | 5.2 | 63.2 | 10.6 | 21.0 |
| 6. Selling through commission agent or broker | 18.7 | 62.6 | 12.5 | 6.2 |
| 7. Operating a livestock exchange | 20.0 | 60.0 | 10.0 | 10.0 |
| 8. Grading livestock for shipment | 20.0 | 55.0 | 15.0 | 10.0 |
| 9. Operating a grain and hay exchange | 22.2 | 50.0 | 16.7 | 11.1 |
| 10. Preparing livestock for shipment | 26.4 | 36.9 | 21.0 | 15.7 |
| 11. Sorting and grading products on the farm | 35.0 | 35.0 | 15.0 | 15.0 |
| 12. Processing and packing products for market | 25.0 | 30.0 | 15.0 | 30.0 |
| 13. Studying market cycles and trends | 23.8 | 23.8 | 38.0 | 14.3 |
| 14. Inspecting, sampling, and grading | 47.5 | 21.0 | 21.0 | 10.5 |
| 15. Storing products for market | 38.1 | 14.3 | 23.8 | 23.8 |

methods" were ranked in second and third places respectively of the twelve methods listed, only one received as much as 9.5 per cent "doubtful". None were marked "undesirable".

The author believes that this is one of the most important objectives of the entire group. Every successful farmer strives to improve his farming practice from year to year. The agriculture of Kansas had need for improvement. The increase of livestock production or of crop yields may be increased greatly through the intelligent application of the methods listed under this objective. Agronomists state that the yields of the major crop enterprises of this state have decreased nearly 35 per cent during the past 50 years due largely to the decrease of soil fertility which was the result of a system of farming that did not prevent soil erosion, over grazing, and "one crop" farming.

Such specific tasks as, the increase of egg production per hen, milk and fat production per cow, the production of swine ton litters at six months of age, etc., should be the aim and objective of every cooperative group project conducted in these enterprises. Crop enterprises may be improved in a like manner. Experimental data has demonstrated that there is absolutely no need of farm losses from such enemies as Blackleg, Tuberculosis, or Bang's Disease in

Table 17. Per cent of teachers evaluating the methods used in gaining the seventh objective, "To improve the quality of an enterprise in the community".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Sanitation and the control of disease | 95.2 | 4.8 | 0 | 0 |
| 2. The use of improved methods in feeding | 80.9 | 19.1 | 0 | 0 |
| 3. The use of improved cultural methods | 80.9 | 14.3 | 4.8 | 0 |
| 4. The increase of soil fertility | 76.2 | 23.8 | 0 | 0 |
| 5. Erosion control, soil and moisture conservation | 71.4 | 23.8 | 4.8 | 0 |
| 6. The improvement of housing and equipment | 61.9 | 33.3 | 4.8 | 0 |
| 7. The use of certified seed in crop group projects | 61.9 | 33.3 | 4.8 | 0 |
| 8. The selling of certified seed or purebred stock | 56.5 | 43.5 | 0 | 0 |
| 9. The purchase of certified chicks, eggs, or poults | 52.4 | 42.8 | 4.8 | 0 |
| 10. The purchase of purebred animals and distribute co-operatively among the boys in the group | 47.6 | 47.6 | 4.8 | 0 |
| 11. Development of cooperative bull, ram, or boar association for exchange of sires | 38.1 | 57.1 | 4.8 | 0 |
| 12. Purchase of high grade stock and use of purebred males already available in the community | 23.8 | 66.7 | 9.5 | 0 |

cattle, cholera in swine, fowl pox in poultry, and such animal parasites as coccidia, round worms, and tapeworm. Also, that certain diseases of field crops can be controlled almost 100 per cent; such as, covered smut of wheat, oats, and barley, kernel smut of sorghum, and many others too numerous to mention.

The complete cycle was checked as the best type of project to use in gaining this objective. "Continuation" ranked second followed by "single phase" and lastly, "vary with economic trends". It may be assumed from the data in Table 18 that the group preferred a "continuation" type of project which should be carried through its "complete cycle". If this is practiced, the greatest degree of improvement will then be possible.

Evaluation of the eighth objective, "To earn money for the Future Farmer Association Chapter". There were ten methods listed under this objective. The group was generally divided as to the rating of the various methods listed, about as many checking "doubtful" as checked either "excellent" or "good", as indicated in Table 19.

The method that ranked first was that of the "Project to be financed out of previous project earnings". This plan assumes an accumulation of money which is to be placed in

Table 18. Per cent of teachers evaluating the type of project best suited to use in gaining the seventh objective, "To improve the quality of an enterprise in the community".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Continuation | Single phase | Vary with economic trends |
| 1. The practice of sanitation and control of disease..... | 66.7 | 28.5 | 4.8 | 0 |
| 2. The use of improved cultural methods | 61.9 | 14.3 | 23.8 | 0 |
| 3. The purchase of purebred animals and distribution among the group..... | 55.0 | 35.0 | 10.0 | 0 |
| 4. Purchase by boys of high grade stock and use of purebred males already available in the community... | 55.0 | 40.0 | 5.0 | 0 |
| 5. The use of certified seed in crop group projects.... | 52.7 | 26.3 | 10.5 | 10.5 |
| 6. The improvement of housing and equipment | 52.4 | 42.8 | 0 | 4.8 |
| 7. The purchase of certified chicks, eggs, or poult | 52.4 | 33.3 | 14.3 | 0 |
| 8. Erosion control, soil and moisture conservation | 50.0 | 50.0 | 0 | 0 |
| 9. The selling of certified seed or purebred stock from the cooperative group project..... | 47.6 | 28.6 | 9.5 | 14.3 |
| 10. The increase of soil fertility | 45.0 | 50.0 | 5.0 | 0 |
| 11. The development of purebred bull, ram, or boar associations for the exchange of sires..... | 45.0 | 45.0 | 0 | 10.0 |
| 12. The use of improved methods in feeding | 40.0 | 15.0 | 45.0 | 0 |

the Future Farmer Association treasury from previous project returns. With this source of loanable funds, projects may be financed year after year. This would give the students ownership and control and increase interest and respect for their organization. This method, in combination with that of borrowing from individual members or borrowing from the local bank, should prove very desirable.

The second method was that of the "Chapter finance the group project cooperatively with the school board". It appears that this is one of the most popular methods of financing the cooperative group project. Under this plan, the board is to furnish a part of the funds and the chapter the remainder. This method has the advantage of securing the interest of the school board members. It is cooperative in that the chapter through its members, cooperate financially with the school board. If this plan is followed, it will become necessary for both parties to sign an agreement or contract stipulating each item to be agreed upon by the contracting parties. This is excellent experience for the students and also furnishes needed security for the chapter through the borrowing of its working and investment capital. There is this danger, however, that the board in some cases may attempt to dictate certain policies of management or of marketing practice that might contradict the methods set-up

Table 19. Per cent of teachers evaluating the methods used in gaining the eighth objective,
 "To earn money for the local Future Farmer Association Chapter".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. The project to be financed out of previous project earnings..... | 40.9 | 31.9 | 13.6 | 13.6 |
| 2. The chapter finance the group project cooperatively with the school board..... | 28.6 | 38.0 | 28.6 | 4.8 |
| 3. School board provide all money for investment and equipment, chapter furnish all labor and management and share in a per cent of the profits..... | 27.1 | 31.9 | 31.9 | 9.1 |
| 4. Chapter finance all group activities by borrowing money as individuals from the production credit association or other federal agencies..... | 18.3 | 54.3 | 18.3 | 9.1 |
| 5. Chapter and teacher cooperatively finance the project dividing the returns on ratio of investment..... | 18.2 | 0 | 40.9 | 40.9 |
| 6. The chapter furnish either feed supplies or money according to resources of each member..... | 13.6 | 36.3 | 31.9 | 18.2 |
| 7. The chapter finance all group activities by borrowing money as individuals from local bank..... | 9.1 | 31.9 | 36.3 | 22.7 |
| 8. School board furnish all money and equipment and chapter furnish all labor and management without any monetary returns..... | 4.8 | 4.8 | 4.8 | 85.6 |
| 9. The chapter finance all group activities by borrowing money as individuals from other people..... | 0 | 26.3 | 31.6 | 42.1 |
| 10. The project financed by the teacher or other individuals..... | 0 | 4.8 | 28.6 | 66.6 |

by the teacher and the chapter. It may require that the teacher use considerable wisdom and tact in properly coordinating the activities and methods suggested by both groups.

The "School board provide all money for investment and equipment, chapter furnish all labor and management and share in a per cent of the profits" ranks as the third method. In general, this method was rated either "excellent" or "good" by nearly 60 per cent of those reporting. This method gives stability to the project and readily solves the problem of furnishing working and investment capital especially when the board is interested in this type of vocational agricultural education. This method of financing is followed by a number of departments in the state where the group project is continued year after year as the regular procedure of the Future Farmer Association Chapter. It may be criticized from the same viewpoint as that of method two, "The chapter finance the project cooperatively with the school board".

The fourth method referred to the borrowing of funds from the Federal Production Credit Association or other federal agencies and was checked either "excellent" or "good" by more than 72 per cent of those reporting. During the years 1932-1937, the Federal Credit Administration has made loans to farmers for general agricultural purposes. Loans in general were made for one year or less and none were made

for more than three years. The loans were usually secured by a first mortgage lien on livestock. The interest rate to the farmer has been five per cent. It would be advisable for the group to borrow money from this source if the rate of interest charged by the local banker was very much higher.

The method in fifth place, "Chapter and teacher co-operatively finance the project dividing the returns on basis of investment" was ranked either "doubtful" or "undesirable" by more than 80 per cent of those reporting. It may be expected that the school board, patrons, and students will question the motives of the teacher who participates in the project and at the same time shares in the financial returns. In the past, any plan that involved the teacher financially has been considered unethical and open to criticism.

Method six, "The chapter furnish either money, livestock, or feed supplies according to the resources of each member" was selected either "excellent" or "good" by approximately 50 per cent of those reporting. The following extract taken from the organization plans of the Cooperative Sheep Production project, Ottawa chapter, Future Farmers of America, Ottawa, Kansas, makes the following statement regarding the financing of the sheep production project:

"any student may pay for part or all of his shares by supplying feed of good quality at a price to be determined by the purchasing committee and myself".*

It is evident that this practice will permit some of the students to pay for their share of the investment through feed grown on the farm or from previous individual crop projects. It also will permit the teaching of the lesson that the marketing of grains and hays through livestock permits the conservation of fertilizer and the improvement of soil fertility.

The seventh method, "The chapter finance all group activities by borrowing money as individuals from the local bank" was rated "excellent" by 9.1 per cent, "good" by 31.9 per cent, "doubtful" by 36.3 per cent, and "undesirable" by 22.7 per cent. It appears that the group considered this only a slightly better method than that of borrowing from individuals. The bank has been set up as an agency of service to the community in that it acts as agent for people who have money to lend or who have to borrow funds. The writer believes that it is good practice for the students of the group project to borrow working capital from the local banks

*C. O. Banta, Advisor, Ottawa, Kansas.

when interest rates can be obtained at rates not to exceed six per cent per annum. If the funds are borrowed from the local banker, he will become interested in the project and be ready to give helpful advice and assistance at the time when it is most needed. It has been the writer's experience through nine years of cooperative project activity that the local banker had become one of his best friends and was willing to express his opinions at any time.

"The school board furnish all money and equipment and the chapter furnish all labor and management without monetary returns is the eighth method. It has registered the largest number of "undesirables" when compared with the other methods. Only 14.4 per cent checking it above this rating factor. If the student is not permitted to participate in the financing of the project, one may expect his interest to lag, the level of learning to be lowered, and the labor involved to become a drudgery. Ownership stimulates learning to a much larger degree. The wise teacher will make every effort to secure student participation in project finances to as great an extent as is practicable.

The ninth method was rated "undesirable" by more than 42.1 per cent of those reporting. It states, "That the chapter finance all group activities by borrowing money as individuals from other people". However, the author

believes with the group checking "good" that those students who need to borrow funds to share in a cooperative group project may exercise their own initiative by borrowing funds from private lenders. This will give the student opportunity to make his own arrangements with the lender and to find his own security. In all, it would be excellent business experience.

The last method listed under this objective, "The project financed by the teacher or other individuals" was rated "undesirable" by 66.6 per cent of those reporting, "doubtful" by 28.6 per cent and "good" by only 4.8 per cent.

It is apparent that any plan that involves the teacher personally in the finances of the project is considered unsound by a majority of the teachers reporting.

In Table 20 the methods to gain the eighth objective are arranged according to the type of project best suited to gain this objective. The type of project, "vary with economic trends" was chosen most often by those reporting followed by "single phase", "continuation" and "complete cycle".

Evaluation of methods to use in gaining the ninth objective, "To demonstrate to the farmers of the community the correct production procedure in an enterprise". There were thirteen methods set-up for use in gaining this objective.

Table 20. Per cent of teachers evaluating the type of projects best suited to gain the eighth objective, "To earn money for the local Future Farmer Association Chapter".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|-----------------|-------------------|-------------------|
| | Vary with economic trends | Single phase | Continu- ation | Complete cycle |
| 1. The chapter finance all group activities by borrowing money as individuals from other people..... | 76.5 | 17.7 | 5.8 | 0 |
| 2. Chapter and teacher cooperatively finance the project dividing returns on ratio of investment..... | 50.0 | 25.0 | 15.0 | 10.0 |
| 3. Chapter finance all group activities by borrowing money as individuals from the local bank..... | 42.9 | 42.9 | 9.5 | 4.7 |
| 4. Chapter furnish either feed supplies or money according to the resources of each member..... | 42.0 | 36.0 | 11.0 | 11.0 |
| 5. The chapter finance the group project cooperatively with the aid of the school board..... | 40.0 | 10.0 | 20.0 | 30.0 |
| 6. Project financed by teacher or other individuals.. | 33.3 | 50.0 | 11.1 | 5.6 |
| 7. Project financed entirely out of previous earnings..... | 33.3 | 11.1 | 38.9 | 16.7 |
| 8. School board furnish all money and equipment and chapter perform all labor and management without any monetary returns..... | 31.6 | 31.6 | 26.3 | 10.5 |
| 9. Chapter finance all group activities by borrowing money as individuals from federal credit agencies... | 31.6 | 27.3 | 27.3 | 13.5 |
| 10. School board provide all money for investment and equipment, chapter furnish all labor and management and share in a per cent of the profits..... | 25.0 | 15.0 | 35.0 | 25.0 |

As a whole, the methods stated were judged either "excellent" or "good" by nearly all of those reporting. No one checked any of the methods "undesirable" and only a small per cent stated "doubtful".

The methods are listed in Table 21 according to the highest percentage under the rating factor "excellent". "The chapter publish project summaries in the local paper" was rated highest, being checked 68.2 per cent "excellent" and 22.8 per cent "good".

Efficient production methods are always a part of the group project procedure. The teacher who fails to use the local paper for the publishing of project summaries, fails to accomplish in a measure that part of the goal that he set out for in the beginning of the project. The agricultural practices of the community can be changed only when the students and parents begin to do them in an improved manner. Material that involves a number of individuals in the community is always good news and is widely read by all subscribers.

"Boys carry home ideas to parents" is the second method and in this case needs little explanation. It is essential that the instruction and demonstration of skills necessary to conduct the project be so thoroughly performed by all

Table 21. Per cent of teachers evaluating the methods used to gain the ninth objective, "To demonstrate to the farmers of the community the correct production procedure in an enterprise".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Chapter publish project summaries in local paper | 68.2 | 22.8 | 9.0 | 0 |
| 2. Boys carry home ideas to parents | 66.6 | 28.6 | 4.8 | 0 |
| 3. The use of group project data in evening school and part time instruction..... | 59.1 | 36.4 | 4.5 | 0 |
| 4. Instructor makes personal contact with farmers in the community..... | 59.1 | 36.4 | 4.5 | 0 |
| 5. Demonstrations and exhibitions at fairs | 58.3 | 25.0 | 16.7 | 0 |
| 6. Instructor suggests that the farm practices used in the group project be used in the home projects..... | 52.4 | 47.6 | 0 | 0 |
| 7. The holding of annual field days | 52.2 | 47.8 | 0 | 0 |
| 8. Story summaries published in farm papers | 50.0 | 40.9 | 9.1 | 0 |
| 9. Cooperating with breeders and certified seed growers..... | 48.0 | 48.0 | 4.0 | 0 |
| 10. Chapter publishes results in chapter publication | 47.8 | 43.5 | 8.7 | 0 |
| 11. Cooperating with farm organizations | 53.5 | 56.5 | 0 | 0 |
| 12. Cooperating with local bank | 34.8 | 56.5 | 8.7 | 0 |
| 13. Cooperating with local hatchery | 21.7 | 69.6 | 8.7 | 0 |

students that they will not hesitate to use these skills in similar enterprises on the home farm or in the individual home projects.

The third method, "The use of the group project data in evening school and part time instruction" was rated either "excellent" or "good" by more than 92 per cent of those reporting. It has been the writer's experience, when teaching in the Wakefield Rural High School, that summary materials and data taken from a cooperative group project in egg production were of considerable value in the teaching of an evening school on the subject of farm poultry production. Members of the evening school were especially interested in that the data were collected from a flock handled right in their community.

Methods four to seven inclusive were ranked more than 50 per cent "excellent", and no one reporting ranked methods four to seven less than 25 to 40 per cent "good". The teacher may make personal contacts with the parents while he visits the home projects of the boys. "Demonstrations and exhibitions of the products of the group project", or the charting of summary data will catch the interest of many of the patrons in the community. In the sixth method in Table 2, "The instructor suggests that the farm practices

used in the group project be used in the home projects". This is often practiced by students carrying similar home projects. For example, during the winter of 1931, the writer, then teacher of vocational agriculture, and the Wakefield Chapter of the Future Farmer Association conducted a beef cattle project by feeding a car load of Texas feeder calves. Emeal Luthi, one member of the group, chose an Angus calf for his home project. Emeal selected the calf from a herd of good Angus breeding and later fed the calf on exactly the same grain ration as that of the group project with the exception of some black strap molasses. The calf was self fed and handled in almost identical fashion to those in the group project. The calf was judged reserve champion at the American Royal Livestock Show, Kansas City, and at the end of the show sold for one dollar per pound at public auction. Other instances might be related that would indicate that the home projects are greatly influenced by the general practices conducted in the group projects.

Methods nine, eleven, twelve, and thirteen have to do with cooperation with various organizations such as the local bank, elevator, hatchery, and farm organizations, such as the Union, Grange, Farm Bureau, etc. Contacts properly made with these organizations will aid greatly in the

promotion and motivation of this type of agricultural instruction. These methods were rated more than 90 per cent "good" or "excellent" by all those reporting.

In Table 22 the type of projects were arranged according to the greatest percentage. "Complete cycle" ranked highest followed in order by "continuation", "single phase", and "vary with economic trends".

Evaluation of methods used in gaining the tenth objective, "To gain publicity for the Future Farmer Association Chapter". This objective was rated in tenth place and perhaps was not intended that it should be an important objective. The word publicity as used here refers to the dissemination of information regarding the program of the Future Farmer Association Chapter among the patrons of the community.

Of the nine methods listed, all were checked more than 68 per cent "excellent" and "good" by those reporting.

The reader will note that a number of the methods listed under this objective are similar to those in the ninth objective. It might be well to remember that the primary function of the project is to develop cooperation and to improve the agricultural practices of the community. If this is accomplished in an efficient manner, publicity for the

Table 22. Per cent of teachers evaluating the type of project best suited to gain the ninth objective, "To demonstrate to the farmers of a community the correct production procedure in an enterprise".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|--------------|--------------|---------------------------|
| | Complete cycle | Continuation | Single phase | Vary with economic trends |
| 1. Instructor suggests that the farm practices used in group projects be used in home projects..... | 92.3 | 7.6 | 0 | 0 |
| 2. Story summaries published in farm papers | 84.2 | 10.5 | 5.3 | 0 |
| 3. Boys carry home the ideas to parents | 70.0 | 20.0 | 5.0 | 5.0 |
| 4. The use of group project data in evening school and part time instruction..... | 65.0 | 30.0 | 5.0 | 0 |
| 5. Cooperating with local hatchery | 61.2 | 22.2 | 16.6 | 0 |
| 6. Instructor makes personal contact with farmers in the community..... | 61.1 | 33.3 | 5.6 | 0 |
| 7. Cooperating with local bank | 55.6 | 22.2 | 16.6 | 5.6 |
| 8. Cooperating with breeders and certified seed growers..... | 55.0 | 35.0 | 10.0 | 0 |
| 9. Demonstrations and exhibitions at fairs | 52.6 | 26.3 | 15.8 | 5.3 |
| 10. Chapter publishes summaries in local paper | 50.0 | 15.0 | 25.0 | 10.0 |
| 11. Chapter publishes results in chapter publications | 44.4 | 22.2 | 27.8 | 5.6 |
| 12. Cooperating with farm organizations | 44.4 | 22.2 | 27.8 | 5.6 |
| 13. The holding of annual field days | 38.1 | 28.6 | 23.8 | 9.5 |

Future Farmer Association Chapter will be a natural consequence.

In Table 24 the type of project best suited to gain the tenth objective that ranked highest was "single phase" followed by "complete cycle", "continuation", and "vary with economic trends".

Evaluation of the eleventh objective, "To set up a comparison of two or more production practices". This objective was ranked last in importance and was selected by the group to be "not necessary".

Table 25 lists the methods in order of their importance according to the factor "excellent". The group in general was quite divided as to the rating of the various methods, from 5 to 50 per cent checking "doubtful" or "undesirable".

Table 26 shows the selection as to the type of project best suited to gain each objective. "Single phase" ranked first in all but two instances, followed by "complete cycle", "continuation" and "vary with economic trends".

CONCLUSIONS

The two objectives that are "essential" in a cooperative group project are, "To develop the idea of cooperation

Table 23. Per cent of teachers evaluating the methods used in gaining the tenth objective,
 "To gain publicity for the Future Farmer Association Chapter".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. The conducting of field days and project tours with every member of the Future Farmer Association..... | 71.4 | 23.8 | 4.8 | 0 |
| 2. Parents invited to visit project at chore time when boys are doing work..... | 47.7 | 42.8 | 9.5 | 0 |
| 3. Other members of the high school invited to visit the project..... | 38.1 | 61.9 | 0 | 0 |
| 4. Articles of interest written for local paper | 38.1 | 61.9 | 0 | 0 |
| 5. Locate lots, fields, plots etc., near an important highway..... | 38.1 | 42.8 | 14.3 | 4.8 |
| 6. Articles written for farm papers | 36.4 | 50.0 | 13.6 | 0 |
| 7. Summaries of projects sent to farmers in the community..... | 35.0 | 45.0 | 20.0 | 0 |
| 8. Articles written for breed papers | 35.0 | 40.0 | 25.0 | 0 |
| 9. Public demonstrations on group project site | 23.8 | 66.7 | 9.5 | 0 |

Table 24. Per cent of teachers evaluating the type of project best suited to gain the tenth objective, "To gain publicity for the Future Farmer Association Chapter".

| Methods | Per cent of teachers reporting | | | |
|--|--------------------------------|-------------------|-------------------|------------------------------|
| | Single phase | Complete cycle | Continu- ation | Vary with economic trends |
| 1. Public demonstrations on group project site | 50.0 | 30.0 | 20.0 | 0 |
| 2. Parents invited to visit project at chore times when boys are doing work | 42.1 | 31.6 | 23.3 | 0 |
| 3. Summaries of projects sent to farmers in community | 42.0 | 36.6 | 15.7 | 5.7 |
| 4. Articles of interest written for local paper | 42.1 | 26.3 | 21.1 | 10.5 |
| 5. Other members of the high school invited to visit the projects | 40.0 | 40.0 | 20.0 | 0 |
| 6. Articles written for breed papers | 33.3 | 23.8 | 28.6 | 14.3 |
| 7. Location of lots, fields, plots, etc., near an important highway | 30.0 | 30.0 | 40.0 | 0 |
| 8. Articles written for farm papers | 26.3 | 31.6 | 31.6 | 10.5 |
| 9. The conducting of field days and project tours with every member of the Future Farmer Association in attendance | 25.0 | 36.0 | 40.0 | 0 |

Table 25. Per cent of teachers evaluating the methods used in gaining the eleventh objective, "To set up a comparison of two or more production practices".

| Methods | Per cent of teachers reporting | | | |
|---|--------------------------------|------|----------|-------------|
| | Excellent | Good | Doubtful | Undesirable |
| 1. Fertilizer tests | 47.4 | 36.8 | 10.5 | 5.3 |
| 2. Certified versus ordinary seed | 45.0 | 30.0 | 20.0 | 5.0 |
| 3. Seed treatment versus no treatment | 45.0 | 30.0 | 5.0 | 20.0 |
| 4. Crop variety tests | 42.1 | 36.8 | 15.8 | 5.3 |
| 5. Field seed selection versus bin run | 30.0 | 35.0 | 20.0 | 15.0 |
| 6. Varying cultural methods | 27.8 | 44.4 | 22.2 | 5.6 |
| 7. Marketing cooperatively versus shipping and selling on open market | 25.0 | 60.0 | 10.0 | 5.0 |
| 8. Disease control compared to lack of control | 25.0 | 20.0 | 25.0 | 30.0 |
| 9. Varying seed bed preparation | 21.1 | 47.4 | 26.3 | 5.2 |
| 10. Time and methods of harvesting | 21.1 | 42.1 | 26.3 | 10.5 |
| 11. Purebred versus hybrid animals | 19.0 | 28.6 | 47.6 | 4.8 |
| 12. Balanced rations versus unbalanced rations | 17.4 | 30.4 | 17.4 | 34.8 |
| 13. Wet versus dry feeding | 14.3 | 52.3 | 28.6 | 4.8 |
| 14. Grinding grains compared to feeding whole grains | 14.3 | 47.6 | 28.6 | 9.5 |
| 15. Good housing compared with inferior | 10.0 | 15.0 | 55.0 | 20.0 |

Table 26. Per cent of teachers reporting on the type of project necessary to gain the eleventh objective, "To set up a comparison of two or more production practices".

| Methods | : | Single phase | Complete cycle | Continu- ation | Vary with economic trends |
|---|---|-----------------|-------------------|-------------------|------------------------------|
| | | | | | |
| 1. Wet versus dry feeding | : | | | | |
| ..... | : | 78.9 | 15.8 | 5.3 | 0 |
| 2. Grinding grains compared to feeding whole grains..... | : | 70.0 | 20.0 | 5.0 | 5.0 |
| 3. Marketing cooperatively versus shipping and selling on open market..... | : | 68.3 | 21.1 | 5.3 | 5.3 |
| 4. Balanced rations versus unbalanced rations | : | | | | |
| ..... | : | 63.2 | 26.3 | 10.5 | 0 |
| 5. Good housing compared with inferior | : | | | | |
| ..... | : | 55.0 | 35.0 | 10.0 | 0 |
| 6. Purebred versus hybrids. | : | | | | |
| ..... | : | 50.0 | 40.0 | 5.0 | 5.0 |
| 7. Varying seed bed preparation | : | | | | |
| ..... | : | 44.4 | 33.4 | 22.2 | 0 |
| 8. Varying cultural methods | : | | | | |
| ..... | : | 42.1 | 31.6 | 26.3 | 0 |
| 9. Time and methods of harvesting | : | | | | |
| ..... | : | 42.1 | 36.8 | 21.1 | 0 |
| 10. Control of disease compared to lack of control..... | : | 38.9 | 55.5 | 5.6 | 0 |
| 11. Fertilizer tests | : | | | | |
| ..... | : | 38.9 | 38.9 | 22.2 | 0 |
| 12. Field seed selection versus bin run | : | | | | |
| ..... | : | 36.8 | 31.6 | 26.3 | 5.3 |
| 13. Seed treatment versus no treatment | : | | | | |
| ..... | : | 36.8 | 26.3 | 31.6 | 5.3 |
| 14. Certified seed versus ordinary seed | : | | | | |
| ..... | : | 33.3 | 47.6 | 14.3 | 4.8 |
| 15. Crop variety tests | : | | | | |
| ..... | : | 31.6 | 31.6 | 31.6 | 5.2 |

among the boys and others in the community" and "To develop a convenient laboratory for group instruction". The group project to be successful requires definite cooperation on the part of all individuals concerned. It also should be located within a convenient distance of the school laboratory.

Nine additional objectives that are "desirable" but not necessarily "essential", in order of rank, include the following: "To increase interest in the study of the productive skills of an enterprise", "To give experience in the production and management of enterprises of a farm unit size", "To introduce a potential enterprise into a community", "To give participation experience in the mechanics of marketing", "To improve the quality of an enterprise in the community", "To earn money for the Future Farmer Association Chapter", and "To demonstrate to the farmers of the community the correct production procedure in an enterprise".

"To gain publicity for the Future Farmer Association Chapter" and "To set up a comparison of two or more production practices" are not "desirable" objectives. It is not advisable for Future Farmer Chapters to conduct projects for the sole purpose of publicity. Neither is it wise for the chapter to handle projects that are of an experimental

nature. Such activities are performed by experiment stations.

The "complete cycle" type of project is the most efficient one to use in a cooperative group project. It provides experience through all the jobs of the enterprise in natural sequence.

"Single phase" is the substitute when equipment or capital is not available to carry the enterprise through its "complete cycle". A number of chapters in Kansas have followed the practice of operating cooperative group projects continuously, that is, year after year. In some cases the type of project is "complete cycle" and in others it is "single phase" depending upon the extent of the project program being operated.

One may conclude from this study that the "farm unit size" for a cooperative group project in such enterprises as vegetables, pop corn, sweet corn, lespedeza, cowpeas, soybeans, winter vetch, a vineyard, and fruit orchard, is one to five acres; for alfalfa, sorghums grown for hay, sweet clover for hay or pasture, six to ten acres; sorghums and corn for silage, corn, oats, sorghums, rye, and barley for grain, eleven to twenty acres; and wheat for grain, more than twenty-one acres.

A project of one to five individuals is a "farm unit size" in animal enterprises, such as sow and litter and a dairy herd for milk production. From six to ten animals in projects for the development of beef breeding herds and for the fattening of beef cattle for market is a farm unit size. For projects in fattening swine or the development of a flock of breeding ewes, eleven to twenty individuals; and for projects in the fattening of lambs, capons, turkeys, and broilers, and for raising a poultry flock for egg production, twenty-one or more individuals is a farm unit size.

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