A State-Wide Test

(Continued from page 100)

the many important phases that should be developed under each enterprise.

2. They are a challenge to the boys.

3. In reviewing the examinations with the boys after correction they form the pattern for a most thoro and excellent review of all phases of that enterprise.

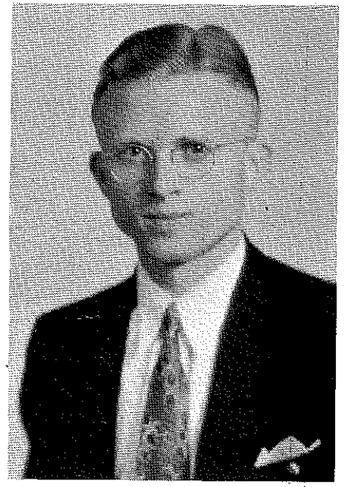
4. They are the means by which a teacher may check on the efficiency of his teaching with successive classes. They are the means by which the individual teacher may compare his work in a very general and admittedly inaccurate way with that being done in other parts of the state.

STATE STANDINGS IN MASTERY EXAMINATIONS

	Perfect Score	Range	Median	Q.1	Q.3
Feeds	140	13–137	86	75	101
Dairy Cattle	160	18–158	99	84	118
Swine	140	21–139	87	70	104
Horses	125	8–125	85	70	97
Sheep	125	32–125	94	81	105
Poultry	175	38–172	116	98	134

Utah State Farmer Wins High Honor

Fred Somers, a State Farmer of Bear River chapter, Utah, has received a $2,000 Rhodes Scholarship at Oxford University in England, beginning with the school year of 1936-37. So far as is known he is the first State Farmer in America to receive this honor. Somers expects to continue his study of botany and plant physiology in their application to the control of plant diseases.



Fred Somers

Somers had poultry and grain enterprises in his vocational agricultural program. He served as chapter reporter and had an outstanding record in chapter, high school, and college activities. While in high school Somers received a Union Pacific Railroad Scholarship of $100 to attend the Utah State Agricultural College, where his average scholarship was 93.4 out of a possible 95. He was elected to Phi Kappa Phi and Alpha Zeta. President Carl Gray of the Union Pacific System plans to meet this outstanding young man at Ogden at the time of his departure for Oxford.

Mr. Somers expects to make his life work the control of plant diseases as a

Activities of the Spearsville Chapter

W. O. FERGUSON, Teacher,
Lillie, Louisiana

IN THESE modern days of high-powered automobiles, fame in baseball (for which a player often receives a salary even higher than that received by the president of the United States), and stardom in the movies, one needs to remind oneself that to give the farm boy the things on the farm that he would find in the city is the secret of keeping our farm youth contented with the life of the farm people. This can be done by putting activities and conveniences within the reach of the youth on the farm. It is the first of these that we wish to discuss in relation to the work of the Spearsville Chapter. We shall mention only a few of the most important functions here because of limited space.

"Rural leadership is the outstanding need of the hour." A good leader needs to be a good speaker. We have always had this objective in our program of work.

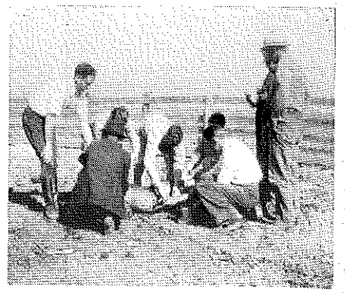
Another purpose of the organization is to furnish recreation for future farmers. This has been done in several ways, but mainly by athletics in the form of a basketball tournament and all kinds of athletics at the state encampment. On February 10, at Mangham, our chapter basketball team won the championship of District II. Then, in August, 11 members of our chapter motored to the summer encampment at Fishville and came out at the top of District II, and thereby received the camp trophy. For forms of recreation other than athletics we have had the annual Father-and-Son banquet, social outings, and outdoor meetings. We hope that thru such events the foundation will be laid for co-operation with other organizations.

Last year we were very busy raising funds to pay our camp quota, which was only $123 at the beginning. The methods we used last year to raise $55 of this amount were: having exhibits at parish fair, selling plants from a hotbed, selling peanuts at plays, sponsoring box suppers, presenting the Future Farmer boxing team, and co-operating in a pig project. We have, at the time of this writing, raised from exhibits at the parish fair $36 of the remaining $68, and we hope to complete it this year.

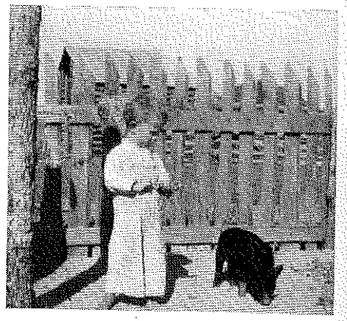
Our chapter has done some publicity work. Four newsletters were put out by the chapter, four articles were published in the Monroe Morning World and ten in the parish paper, and a Future-Farmer booth was put up at the community fair. We also gave two radio broadcasts and helped in one district broadcast.

Another method of learning to cooperate was by a joint initiation, which was held with the Junction City, Arkansas, Future Farmer Chapter. Those who attended this meeting were from two different states, a county, and a parish.

Facts to show that we have done many things other than those mentioned above are found in the results on the Future Farmer score card for the session of 1933–1934. In 1933 our chapter scored 1,367 points to tie with Linville of this parish, and in 1934 made a total of 1,500, to be the highest in the parish. These scores were among the highest in the



These boys are of the Cayuga, Texas, Future Farmer Chapter: from left to right, Adviser R. Lano Barron, Lawrence Wren, Calvin Hopkins, Lester Grant, and Aubrey Walters. Sam McMahon has his back to the camera, and to the right are two farmers observing the work. These boys, together with their classmates, have vaccinated 382 hogs for farmers of the community this past year.



From the above picture, evidently young Future Farmer McMahon has decided to do his own vaccinating, without any assistance from the upper classmen.

South Dakota Chapter Entertains New Members

THE Future Farmers of the Hartford chapter as in past years entertained the eighth grade graduates of the local school district by giving them a "look-in" on the proceedings of a regular F.F.A. meeting. These incoming freshmen were taken on an inspection trip to see the buildings, grounds, and equipment of the agricultural department. They visited the projects of Future Farmers. Returning at noon to the park the F.F.A. served dinner. After dinner a ball game was scheduled with the incoming F.F.A. members and the out-going members pitted against the remainder of the chapter. The day's events closed with swimming. According to John J. Pettis, the instructor, "This annual event does two things. It starts the new boys thinking about the work of the local high school and the Future Farmer program. It gives the prospective Future Farmer a chance to get a glimpse of the whole program. He comes into the agricultural department with the expectation and desire of having a worthwhile supervised program, makes a better member of the

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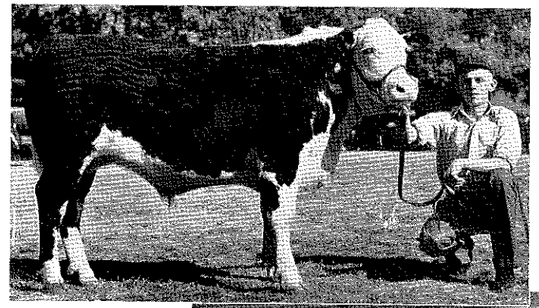
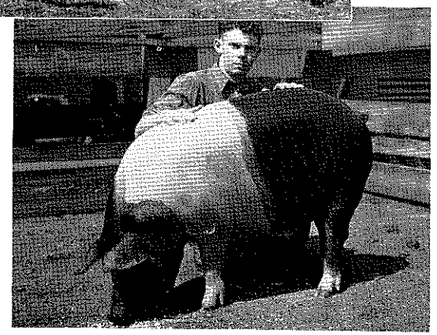
Agricultural Education





WINNERS AT LIVESTOCK SHOWS

(Above: Raymond Lowry, Leeton, Missouri, with his champion Hereford baby beef at the Missouri State Fair and also grand champion of the vocational and junior divisions at the American Royal. Below: Dale Squires, Paris, Missouri, with his grand champion barrow at the National Stock Yards Fat Swine Show. This show, the largest of its kind in the United States, consisted of 1,263 barrows.

"Men's hearts ought not to be set against one another, but set with one another, and all against evil only."

—Carlyle.

EDITORIAL COMMENT

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Extracts From Reports of the Editor and the Business Manager

DURING 1936, 28 states have passed the goal of 118 inches. This has greatly lessened the worry of the editor in having sufficient copy for use, but has brought the problem to him of using the copy as quickly as he would like. This may explain in part why your article has not appeared. Half the articles printed were supplied by teachers.

Every state, except one, has had at least one article printed in the magazine during the year. Supervisors in 15 states, teacher trainers in 27 states, and teachers in 40 states have had one or more contributions printed.

We may look with pride on the number of subscriptions reported by the business manager. The high month of this year was November with 4,534, and every month of the year has had over 4,000, except the low month—August—with 3,907.

CONTRIBUTIONS BY STATES

	Received—1936 Printed		Received—1936 On Hand		Received—1935	
	Articles	Inches	Articles	Inches (Est.)	Articles	Inches
Alabama	2	11	2	54	3	28
Arizona	1	62	2	92	1	16
Arkansas	4	72	3	48	8	203
California	5	105	2	38	3	54
Colorado	5	108	2	28	6	181
Connecticut	1	11	1	40	0	0
Delaware	1	3	1	8	1	10
Dist. of Columbia	4	100	1	40	17	497
Florida	1	16	3	134	2	20
Georgia	4	116	1	18	1	14
Idaho	6	64	7	168	0	0
Illinois	6	83	2	38	22	233
Indiana	8	180	3	44	15	294
Iowa	16	451	5	144	11	215
Kansas	4	34	3	32	4	86
Kentucky	9	95	2	28	5	93
Louisiana	4	58	15	161	4	58
Maine	4	66	0	0	2	29
Maryland	2	16	0	0	1	4
Massachusetts	1	10	2	110	4	95
Michigan	4	42	2	26	2	45
Minnesota	9	224	4	45	5	72
Missippi	3	22	1	15	6	49
Missouri	8	174	3	33	4	38
Montana	5	76	6	60	3	23
Nebraska	11	202	1	32	10	75
Nevada	1	9	0	0	3	27
New Hampshire	2	14	1	14	0	0
New Jersey	4	34	2	18	8	101
New Mexico	1	34	1	18	3	85
New York	8	310	13	106	10	343
North Carolina	1	8	2	66	3	77
North Dakota	12	151	3	26	3	14
Ohio	15	329	7	104	12	255
Oregon	1	31	2	46	9	164
Pennsylvania	6	144	2	52	13	256
Rhode Island	0	0	0	0	0	0
South Carolina	2	28	1	10	0	0
South Dakota	8	106	3	77	1	10
Tennessee	6	266	5	82	6	142
Texas	11	150	6	116	13	136
Utah	1	60	1	13	0	0
Vermont	2	54	0	0	1	20
Virginia	8	166	4	134	8	283
Washington	2	26	1	21	1	81
West Virginia	6	89	6	126	6	50
Wisconsin	12	190	8	228	12	331
Wyoming	4	102	2	47	3	40
Hawaii	0	0	0	0	0	0
Puerto Rico	0	0	0	0	2	25

Contrasted with the report of last year, 11 states rank 100 percent or above in subscriptions, whereas only six states were so classed last year. Three states, Florida, Nevada, and Nebraska, are found in the select group both years. On the other hand, 14 states secured less than 50 percent of the desired subscriptions, contrasted with 11 states last year. In this undistinguished group, six states are found both years.

It mentioned again the desirability of all low-ranking states adopting the policy of most high-ranking states of having the state organization of teachers of vocational agriculture include the subscription charge in its annual state dues. This makes the entire operation painless, professional, and profitable.

Renewals or new subscriptions may begin at any time, but the larger numbers begin in July and December. Remittances should be made to Mr. M. A. Hunnicutt, Meredith Publishing Company, Des Moines, Iowa. Please group subscriptions under these headings: (1) New Subscribers, (2) Renewals, and (3) Renewals With Changes in Address, giving both the old and the new addresses.

Many readers may not know of the excellent co-operation of the Meredith Publishing Company. It plays a large part in the success of our magazine. We are especially indebted to Mr. Hugh E. Curtis, Miss Gladys Johnson, and Mr. M. A. Hunnicutt for their special duties in connection with the magazine.

We express our appreciation to all individuals and co-operating state organizations.

SUBSCRIPTION DATA BY STATES

States	Number of Teachers 1935-36 (1)		Subscriptions November 1, 1936 (2)
	White	Colored	
Alabama	145	30	87
Arizona	29		7
Arkansas	97	43	74
California	238		71
Colorado	59		33
Connecticut	15		5
Delaware	16	2	7
District of Columbia			17
Florida	54	21	103
Georgia	150	45	45
Idaho	34		39
Illinois	317		146
Indiana	221		235
Iowa	129		134
Kansas	131		104
Kentucky	173	3	154
Louisiana	123	62	114
Maine	34		
Maryland	41	7	10
Massachusetts	67		32
Michigan	211		218
Minnesota	114		71
Mississippi	176	79	95
Missouri	150	2	195
Montana	42		22
Nebraska	84		98
Nevada	10		13
New Hampshire	15		15

Professional

Whither Agricultural Education in Co-operating With Farmers' Organizations?

DR. RAY FIFE, President, New Mexico State College,
State College, New Mexico

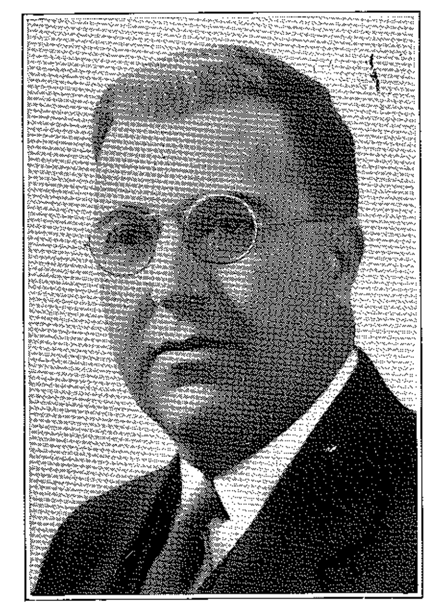
THE basis of any co-operation between vocational agriculture and farmers' organizations is *service—service* in a common cause. No agency of agricultural education or farm organization should exist unless it has the spirit of service, nor will it exist, for long, unless it gives service. There may be temporary superficial co-operative agreements for selfish purposes but in the final analysis we must return to the above premise, which may seem to be so obvious and yet seems to be overlooked so frequently in these difficult days of agricultural rehabilitation and reconstruction.

Before proceeding to the details of our relationships with farm organizations, may we review certain facts and principles which should act as guideposts in providing a program of co-operative service to the farm people of the nation.

May we first voice a few definitions of "co-operation" itself. Alfred M. Vivian, former dean of the College of Agriculture, Ohio State University, has defined co-operation as "so conducting ourselves that others may work with us." Another authority who approaches the problem from an entirely different point of view defines co-operation as "an agreement under which one party does the coing and the other party does the operating." Co-operation for the purposes of this article simply involves an arrangement for working together in a common cause, on the phases of a program in which both parties may find a common interest. Co-operation does not require agreement on the complete programs of the co-operating agencies. The writer has urged the co-operation of vocational agriculture with the social and economic programs of certain state farm organizations when he was in violent disagreement with their point of view in matters of taxation. Any teacher of agriculture faces this problem when he attempts to co-operate with the farm organization or organizations in his community.

MAY we further emphasize the point that an agreement of general facts and principles in our national, state, and local relationships with farm organizations is not sufficient. Guideposts on the highway of co-operation are of little value unless some one travels that way. We avoid difficulties by remaining in the realm of philosophy and principles but usually accomplish very little so far as a practical effective co-operative program is concerned. We have *talked* co-operation between vocational agriculture and farm organizations ing on specific points of co-operation which would enable both the farm organizations and ourselves to do something about it.

May we next emphasize the point that effective co-operation between vocational agriculture and farm organizations is a long-time continuous process. It is not merely a matter of one agency calling upon the other for help in a membership or legislative emergency. The vocational agriculture teacher who "co-operates" with his local farm organization only when he needs support from the board of education in his district may, with reason, expect to be disappointed. A long-time continuous program of co-operation requires planning on a national, state, and local basis. This planned program must be of mutual advantage. Because we are in



Dr. Ray Fife

the field of education which far too many educators seem to regard as sacred effort, there is no reason why we should receive support without giving it. The work of agricultural education agencies on the one side and farm organizations on the other side is so vitally necessary and supplementary that there should be no question of the permanency of the co-operative arrangement.

A further basis of co-operation between vocational agriculture and farm organizations is found in the need for a mutual understanding of the respective programs. There can be no effective co-operation except as there is common knowledge. Farm organizations need to ing material needs to be prepared so that it may be used for instructional purposes in vocational agriculture classes. The programs of national, state, and local vocational agriculture workers should be discussed with farm organization groups. No educators have such a rare opportunity to make instruction effective as have the vocational educators who can plan their instructional program in close co-operation with the vocation which they serve. It is as important that we have practical knowledge of the programs and practices of farm organizations as it is that we have practical knowledge of the farm itself. As either agricultural education or farm organization work progresses and grows it is so easy for each to become immersed in their respective activities. Lack of understanding breeds lack of co-operation.

If the experience of 18 years under the Smith-Hughes Act is of any value, in determining trends in the relationships between vocational agriculture and farm organizations, it can be said, with certainty, that vocational agriculture's part in the co-operative program should be limited to education. When we furnish a type of educational effort which gives knowledge and understanding to rural people we provide the only foundation upon which farm organizations can expect to attain any appreciable degree of success. Acting as organizing or business agent for a farm organization should be without the realm of the vocational education worker. Except in unusual situations where there is a marked dearth of leadership within the organization itself, it is doubtful if vocational workers should accept office in a farm organization. It is the obligation of the educator to stimulate and to train leadership, not to assume it for himself. In problems of legislation the officials of a farm organization should be in a posisition of independence which is not usually possible to educational employees.

PROBABLY no phase of vocational agriculture instruction has meant more to the cause of farm organizations than the Future Farmer of America movement. This movement has transformed our theories for farm organization membership into reality. We need not apologize for a conscious, premeditated effort to so shape Future Farmer activities as to graduate or induct Future Farmers into participation in the programs of adult farm organizations. We measure our vocational agriculture instruction in terms of the number who

Farmer work in terms of the number who actually become adult farm organization members? May we forecast a wider recognition of mutual benefits in a closer correlation of the Future Farmer movement and the activities of adult farm organizations.

AS A final thought in this phase of our discussion, we believe that such experience as we have observed in the interrelationships of agricultural education agencies and farm organizations will justify the statement that vocational agriculture should not ally itself exclusively with any single farm organization. Neither should we insist that any farm organization should confine its co-operation exclusively to us. Both farm organizations and agricultural education agencies should maintain their own respective identities and their respective opportunities for independence of action.

With the preceding facts and observations, along with those which the reader may have, as guides, may we discuss procedures whereby co-operation between vocational agriculture and farm organizations may extend beyond the "philosophy and principles" stage.

While national co-operation will naturally be on a more or less general basis because of the wide differences in state and local programs, there is no valid reason why the approach to the problems of state co-operation should not be quite specific in its nature. Since the purposes and programs of no two state farm organizations are identical, it is not practicable to have any blanket plan for co-operation with all organizations.

The vocational agriculture teacher is seeking ideas for co-operation with the Grange, the Farm Bureau, the Farmers' Union, or such other organizations as may exist in his community. Some such survey as the study made by Dr. W. F. Stewart in Ohio will not only indicate the existence of specific co-operative activities but will also indicate the frequency of them. In case a state supervisor or teacher trainer does not take the initiative in making a state survey of vocational agriculture-farm organization relationships, then a district or county group of teachers may easily co-operate in making such a survey. We can hardly discuss "Whither vocational agriculture in co-operation with farmers organizations," unless we have quite definite information as to where we are now. Copies of the Ohio survey may be secured by writing Dr. W. F. Stewart, Department of Agricultural Education, Ohio State University, Columbus, Ohio.

THE program of co-operation between a local vocational agriculture teacher and the local farm organization or organizations may be even more specific. To the co-operative activities which are initiated within his own community may be added such desirable ideas as may be gleamed from county, district, or state surveys. Local co-operation is, of course, the basis of the entire vocational-agriculture-farm organization co-operative structure. It is the source from which national and state relationships draw their strength. It is our hope that each teacher of vocational agriculture will have a definite, specific plan for

If the present nationwide popularity of the vocational agriculture movement causes us to forget not only our debt but our educational obligation to organized agriculture it will be popularity dearly won. Older forms of education have sometimes become self-contained and internal in their point of view. It required the worst depression in the nation's history to restore their external vision. May vocational agriculture profit from their experience.

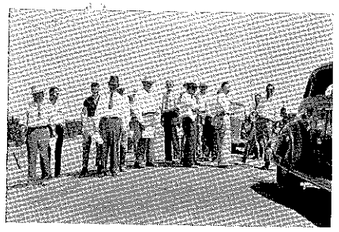
Co-operation Between Vocational Agriculture and the Farm Credit Administration

B. R. DENBIGH, Regional Supervisor,
Fresno, California

IN ORDER to do the best possible job of teaching agriculture in a high school, it is necessary to have the greatest possible amount of local support.

In or near every town in California where agriculture is taught in the high school, there are local banks, national farm loan associations, and production credit associations. The people connected with all these institutions are interested in rural credit. And all these institutions are interested in sound rural credit which is based upon the ability of the debtor to repay the creditor.

One of the important problems of the teacher of agriculture in California is to



interest these representatives and influence citizens, who are connected with these credit agencies, in the work he is doing in the high school.

In the past it has not been possible for very many teachers to secure the experience or training which would qualify them for authoritatively discussing rural credit. People connected with the credit institutions mentioned above, however, are not only thoroly competent to dicuss sound credit but it is very much to their interest to do so. The reason for this is that the more people in the community, and this includes not only adults but Future Farmers of America chapter members many of whom will soon be engaged in agriculture, who know the fundamentals of sound credit, the better it is for the credit agencies.

The hardest thing for a credit man to do is to turn down a request for an unreasonable loan and explain it to the applicant in such a way that he will not only understand it but will appreciate the fact that by not approving the loan asked, the credit man has done him a

been injured rather than favored. For the last couple of years, there have been many conferences and meetings between members of the vocational agricultural education teachers in California and the Farm Credit Administration of the eleventh district, which has headquarters in Oakland, California.

One of the results of these various conferences was a meeting held at the Fresno State College on August 19, 1936, attended by agricultural teachers and Farm Credit Administration officials. This meeting covered one full day and a part of the next day. It was a part of a one week session called the "Grape School," sponsored by the Bureau of Agricultural Education, State Department of Education. Because Fresno is the center of an extensive grape growing area, the farm credit problem was approached from the standpoint of the appraisal of good and poor vineyard properties.

The teachers formed small groups, each in charge of a land bank appraiser, and a complete land bank appraisal was made by each teacher. After that, all details of a land bank appraisal were discussed.

During the meeting it was discovered that one of the land bank appraisers is a trustee of the high school in which one of the agricultural teachers is teaching. This land bank appraiser said that he could see a very great advantage in the work of the high school in having Farm Credit Administration officials and employees and the local bankers help the agricultural teacher in presenting credit suggestions. He said that he could also see great advantage to the credit agency concerned in having this sound fundamental credit understood.

Contacts were made and will be made which will bring local representatives of the Farm Credit Administration and other banking institutions in close touch with the teacher of agriculture. There were teachers that did not know the complete program of the Farm Credit Administration as it applied to their districts.

On the other hand, there are officers and directors of national farm loan associations and production credit associations who know nothing about the splendid work which is being done in vocational agriculture in their very neighborhoods.

D. E. French explained and discussed with the group many of the features of land bank loans.

Walter C. Ficklin, secretary-treasurer of the Fresno Production Credit Association, discussed short term production credit. Following his talk there was much discussion of the details and the possibilities of financing Future Farmers of America projects on a basis of sound credit, which will be of advantage to chapter members in learning the basis of sound credit. Project financing by groups which do it for advertising purposes, or by any other agency which does not insist that financing arrangements conform to standard practice, may do more harm than good.

The making of the contacts indicated above should be invaluable to agriculture teachers and to Future Farmers of America chapters. They should be particularly useful when chapter members are in a position to buy farms and need

Keeping Pace With Science in Instruction in Livestock Selection

G. P. DEYOE, State Teachers' College,
Platteville, Wisconsin

G. P. Deyoe

IN MOST courses in animal husbandry, on both high school and college levels, the instruction which deals with livestock selection is centered primarily upon the art of judging. As usually interpreted, judging consists of the process of selecting animals on the basis of characteristics of type, i. e., conformation. In view of the developments in the scientific aspects of livestock selection during recent years, it appears questionable to place such a large amount of emphasis on what might be termed "beauty of form."

While it is true that some instruction is usually provided which deals with the genetic aspects of animal breeding, the predominant emphasis continues on show-ring standards; and there is little attempt to provide class problems and laboratory exercises in which performance records and prepotency are given the consideration which they merit. Genetics can give practical assistance to the breeder of livestock, and it is part of the responsibility of instructors in animal husbandry to teach in an effective manner how this information can be utilized.

Thus, it appears that the mill-run of our instruction in livestock selection in class groups and in practically all judging contests has undergone little change of emphasis since livestock judging came into vogue as an instructional device. Three of the foremost influences responsible for this situation appear to be: (1) failure to prepare teachers who have a balanced viewpoint of the factors important in livestock selection, (2) the spectacular appeal of judging exercises and contests of the traditional type, and (3) instructional lethargy. If we as instructors are honest with ourselves, we should view with considerable skepticism a situation which continues for these types of reasons.

Form Versus Function

In instructional practice little attention has been given to the fact that the observable characteristics stressed in judging are inaccurate indices of the utility values of the animals in question. This failure in classroom and show ring to adequately recognize the shortcomings of judging procedures has been responsible for the perpetuation of a naive faith in the art of judging on the part of many who come in contact with such activities. As an illustration of the inaccurate conceptions relative to livestock selection which are held by high school agricultural boys, one has but to note the responses given in a farm problems' contest recently held in Wisconsin.

al agriculture, over two-thirds expressed themselves as believing that there is a high relationship between conformation and production in the case of dairy cows. About one-fifth indicated a belief that a good dairyman can estimate with sufficient accuracy each cow's production without the use of records.[1]

External characteristics as a basis for selection are especially inaccurate when applied to dairy cattle. Gowen has shown that the most favorable correlation between production and any body character is so low that if used as a basis for predicting production it would be less than 10 percent improvement over a sheer guess. Using the results of nine expert judges who evaluated the cows on the basis of type, the relationship to milk yield was also less than 10 percent improvement over a guess. Interpreted from another angle, these so-called expert judges did not pick the high-producing cows when looking for type much differently from what could be done on the basis of their dams' records, without looking at the cows in question. These judges could do only slightly better than could be done from a study of the record of one of the two granddams for each cow.[2]

In a recent "contest" at the University of Wisconsin, a group of experienced dairymen and students ranked groups of cows according to estimates of butterfat production as judged by outward appearances and handling qualities. In two groups of cows, one group consisting of nine cows and the other of 10 cows, the dairymen ranked each cow on an average of 3.17 places from her correct order, and the students' average was 2.85 places.[3] The average error of both groups taken together was but a little less than was found by the writer thru drawing numbers from a hat as a basis for ranking the cows.

Of course, some people will say that we cannot neglect type because it has a "sales value." This value is no doubt real and should not be disregarded; but an overemphasis on type may be a deterrent to what constitutes true progress in livestock improvement. To a certain extent, this sales value has resulted from miseducation in the classroom, thru printed materials, and from contacts with the show ring. Perhaps, in the long run, an emphasis on records as a means for securing the aspects of type in which a relationship between form and function exists would be more accurate than the usual reverse procedure. However, the practical approach for instructors, at least in the present state of development of the knowledge of livestock selection, is not to disregard type altogether, altho other factors should be given consideration more nearly in proportion to their worth in livestock improvement. Suggestions for doing this are included in the last part of the article.

For livestock other than dairy cattle, it is also well to recognize that criteria of value have been developed which

but the use of objective criteria for the performance of some other kinds of livestock have been slow to come into use. Fleece weight, as well as length and fineness of fiber, should be more widely used than at present as criteria of the worth of individual sheep. Likewise, the pulling test as a criterion of usefulness for draft horses has a place more worthy of consideration than has commonly been recognized.

For meat animals, carcass quality and cut-out value are basic; and studies have indicated that they do not correlate highly with placings "on the hoof." At the Iowa State Fair a few years ago, it was demonstrated that among the 15 highest ranking barrows in the show ring only five ranged among the 15 which were highest in cut-out value. The barrow which was placed first on foot was sixteenth in cut-out value and the one ranking second on foot was thirty-third in cut-out value![4] In Denmark, hogs are sold almost exclusively by carcass weight and grade after slaughter, because appraisals on the hoof are so inaccurate. In some studies, carcass weights have been found to differ as much as 20 percent from estimates prior to slaughter. In spite of all this, much of our selection of market animals in the United States is still centered around inspection of the animals prior to slaughter with little or no attempt in our instructional activities to point out the inaccuracies of such procedures.

For all kinds of livestock, investigations show that external characteristics bear little relationship to efficiency in the use of feed. This so-called "nutritional efficiency" is an aspect which again shows the gross inaccuracy of judging in the traditional manner. Some strains of livestock have now been found which are 25 percent more efficient in the use of feed than others;[5] but this can be determined accurately by records *and not by appearances*.

Thru an emphasis in our classes on the utilitarian aspects of selection, it should be possible to develop a realization on the part of the students that judging as usually done is only a crude approach to the values of greatest worth in our livestock. In our instructional practices, the need is evident for developing an alertness to new developments and refinements in selective procedures, rather than a continued emphasis on the traditional judging procedures.

Type Versus Prepotency

In the preceding discussion, it has been emphasized that external characteristics of form are not safe guides to the productive ability of livestock. Such an approach is even less accurate in the prediction of the extent to which productive ability will be transmitted to the offspring. One of the greatest impediments to livestock improvement is the perpetuation of the naive belief that the statement "like produces like" serves as a blanket generalization for predicting the characters which will appear in the offspring. In their teaching work, instructors in animal husbandry do much to keep this deception alive by a continued overemphasis on type and pedigree in the selection of breeding stock. There is need for an approach which

Methods

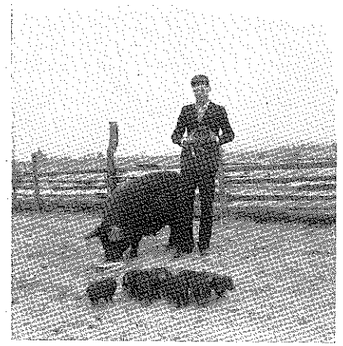
Teach Each Job Well

W. T. LaRUE, Teacher,
Slocum, Texas

THE difference between profit and loss with a brood sow for a vocational project is usually determined within 48 hours after the sow farrows.

Records from former vocational students in the Slocum School show that from two to five pigs more are usually saved from each litter, if the following improved practice jobs are carried out carefully:

1. Confine sow to farrow pen three days before she is due to farrow.
2. Thoroly clean pen and house by washing with hot water and lye.
3. Keep pen and house dry and well ventilated.
4. Have house 7 x 7 feet, with guard rails around side six inches from sides and ten inches from floor.
5. Place in pen sufficient bedding of dry wheat or other fine straw.
6. Wash sows udder before farrowing with soap and warm water.
7. Be present at farrowing time.
8. If cold, line box with sacks and place jug of hot water in it.
9. As pigs arrive, thoroly dry with cloth.
10. Tie navel cord with twine about an inch from belly, and cut cord just below the tie.
11. Treat raw edges of navel with tincture of iodine.
12. Place pigs in box until all are farrowed, unless prolonged for over two hours; if so, let them nurse and return to box.
13. Remove mucus from pig's nose and rub stomach if lifeless.
14. Cut off the eight tusk-like teeth before letting them nurse, so as to prevent scratching sow's udder.
15. If sow has no milk, give pigs undiluted cow's milk every two hours, in small quantities.
16. Do not feed sow for first 24 hours after farrowing.
17. After 24 hours, give sow a feed of warm slop of shorts.
18. Gradually increase sows feed until, at the end of the tenth day, she is fed the same as during pregnancy.
19. Keep bedding warm and dry at all times.
20. In a separate pen, have creeps filled with shorts, tankage, and a mineral mixture for pigs only.
21. Feed sow away from pigs and farrowing pen.



After six years' experience teaching vocational agriculture I am thoroly convinced that I try to include too many problems in my courses of study and fail to devote the time necessary on each problem, so the students will remember each point.

I often ask my boys, when they tell me that they have had a sow to farrow, if they thoroly disinfected pen and house before pigs arrived. The reply usually is that he intended to but just forgot it.

Is it the boy's or teacher's fault? I must say that it is the teacher's fault, for he has not impressed the boy with

The Boy's Study Calendar in Relation to Individual Instruction

H. W. SANDERS, Teacher Training,
Blacksburg, Virginia

H. W. Sanders

SUCCESS in the use of individual instruction is dependent upon a number of factors. Not the least of these is the quality of the study calendars of the individual members of the group. The preparation of these is a joint responsibility of the teacher and the boy. The procedure outlined below may seem a bit detailed and tedious but the final product, an individual study calendar, justifies the necessary time and effort. Short cuts may be introduced as soon as the teacher and boy understand the principles involved.

PREPARING THE BOY'S STUDY CALENDAR

I. What to include:
- A. Supervised farm practice jobs (planning and record keeping)
- B. Enterprise jobs and supplementary farm jobs
- C. Farm shop jobs
- D. F.F.A. jobs
- E. General or basic jobs and problems in agriculture.

II. Procedure to follow:
- A. Tabulate the units or jobs under each of the above headings that are to be included in the boy's program for the year.
- B. Indicate the approximate month and number of days for studying each unit.
- C. Refer to a calendar and determine as nearly as possible the exact number of school days in each month. For an eight-month school year, the total should be 160, for 9 months 180.
- D. Arrange the jobs seasonally by months, scheduling the more important jobs first. Include among these important jobs those the teacher expects to handle by group instruction.
- E. See that enough jobs are scheduled in each month to require all the time, with the exception of one or two extra days for emergencies.
- F. When there are too many jobs for a given month shift them to other months or omit the least important ones. Non-seasonal jobs, like testing milk, may be scheduled where there is most time. Necessary summer jobs must be scheduled during the preceding spring or studied out of class.
- G. After the calendar has been approved and entered in the record book, values may be assigned to the different jobs according to the plan followed in the local school. The values assigned in this case are based on a total value for the program of 1,000 points.

III. Example of a study calendar for a first-year boy having the following supervised practice program:

Enterprises	*Supplementary Farm Jobs*
4 pigs for pork	Field selection of seed corn (6 bu.)
2 dairy calves	Pruning grapevines (10 plants)
½ acre potatoes	Making a bookshelf

A. Jobs in supervised practice planning and record keeping

	Days to be devoted	Date	Value
1. Explanation of program	1	Sept.	
2. Surveying the home farm	3	Sept.	10
3. Mapping the home farm	3	Sept.	10
4. Selecting the farming type	1	Oct.	10
5. Setting up the ideal and actual programs	4	Oct.	30
6. Estimating financial returns	2	Oct.	5
7. Financing the program	2	Oct.	5
8. Preparing the study calendar	3	Oct.	30
9. Planning an F.F.A. fish fry	2	Nov.	10
10. Keeping accounts	1	Nov.	10
11. Transferring accounts	2	Dec.	20
Total points			150

B. Jobs in F.F.A. work

1. Understanding the F.F.A. organization	1	Sept.	
2. Planning a meeting	2	Oct.	15
3. Conducting a meeting	2	Oct.	15
4. Planning a banquet	2	Dec.	10
5. Planning a fish fry	2	Mar.	10
Total points			50

C. Farm shopwork

1. Fitting edge tools	5	Jan.	20
2. Making a hog trough	3	Jan.	(See pig ent.)
3. Making a nail box	2	Jan.	15
4. Making a tool cabinet	5	Jan.	25
5. Sharpening harrow teeth	3	Feb.	20
6. Making a bookshelf	5	Feb.	20
7. Making a feed rack for calves	4	Feb.	(See calf ent.)
8. Miscellaneous shopwork	3	Feb.	
Total points			100

D. General jobs and problems

1. Learning to study by the individual method	3	Nov. 2—Dec. 1	
2. Field selection of seed corn	2	Sept.	20
3. A study of feeds	3	Dec.	
4. A study of fertilizers	3	Feb.	
5. Pruning grapevines (principles of pruning)	2	Mar.	30
Total points			50

E. Jobs in the pigs-for-pork enterprise to be studied in detail

1. Selecting the breed	2	Feb.	20
2. Selecting the individual pig	2	Mar.	20
3. Housing pigs	3	Mar.	30
4. Procuring pigs	1	Mar.	20
5. Feeding growing pigs	3	Mar.	50
6. Providing pasture	2	Apr.	40
7. Feeding for fattening (Oct. 1937)			20
8. Butchering (Oct. 1937)			20
9. Curing and storing meat (Oct. 1937)			20
10. Marketing meat (Nov. 1937)			10
11. Making a hog trough (see farm shopwork)			20
Total points			270

F. Jobs in the dairy calf enterprise to be studied in detail

1. Selecting the breed	3	Jan.	20
2. Procuring calves	2	Mar.	20
3. Feeding calves	3	Nov.	60
4. Providing quarters and equipment	2	Nov.	30
5. Making a feed rack (farm shop)		Feb.	20
6. Providing pasture	3	Apr.	30
Total points			180

G. Jobs in the potato enterprise to be studied in detail

1. Selecting land for potatoes	3	Nov.	10
2. Fertilizing	3	Dec.	30
3. Fitting land for potatoes	3	Mar.	20
4. Procuring seed	3	Mar.	10
5. Planting	3	Apr.	20
6. Cultivating (first)	2	Apr.	10
7. Cultivating (subsequent)	3	Apr.	20
8. Controlling blight	3	May	30
9. Controlling potato and flea beetles	3	May	30
10. Harvesting and storing	3	May	10
11. Determining when to plow land	3	Nov.	10
Tota points			200

H. Arrangement of jobs on a seasonal basis—the actual study calendar. (School term Sept. 14, 1936—May 6, 1937, 160 days.) Note that jobs which cannot be arranged in

THE STUDY CALENDAR

Things to Do (By Months)	Est. Days	Planning: Perf. Score	Planning: Score Made	Doing: Perf. Score	Doing: Score Made
September, 1936—13 days					
1. Explanation of program in vocational agriculture (G)	1				
2. Understanding the F.F.A. organization (G)	1				
3. Surveying the home farm (G)	3			10	
4. Mapping the home farm (G)	3			10	
5. Field selection of seed corn (G)	2	10		10	
6. Holding F.F.A. meeting	1				
October—22 days					
1. Selecting the farming type (G)	1			10	
2. Setting up the ideal and actual programs (G)	4			30	
3. Estimating financial returns (G)	2			5	
4. Financing the program (G)	2			5	
5. Making the business arrangement (G)	1			20	
6. Planning an F.F.A. meeting (G)	2			15	
7. Conducting an F.F.A. meeting (G)	2			15	
8. Preparing the study calendar (G)	3			30	
November—19 days					
1. Keeping supervised practice accounts (G)	1			10	
2. Learning to study by the individual method (G)	2				
3. Selecting land for potatoes (I)	3	5		5	
4. Determining when to plow for potatoes (I)	3	5		5	
5. Providing quarters and equipment for calves (I)	2	15		15	
6. Feeding calves (I)	3	30		30	
December—15 days					
1. Transferring supervised practice accounts (G)	2			20	
2. Planning an F.F.A. banquet (G)	2			10	
3. A study of feeds (G)	3				
4. A study of fertilizers (G)	3				
5. Fertilizing potatoes (I)	3	15		15	
January—20 days					
1. Selecting the breed of dairy cows (I)	3	10		10	
2. Farm shop					
a. Fitting edge tools (G & I)	5	10		10	
b. Making a hog trough (I)	3	10		10	
c. Making a nail box (I)	2	7.5		7.5	
d. Making a tool cabinet (I)	5	12.5		12.5	
February—20 days					
1. Farm shop					
a. Sharpening harrow teeth (G & I)	3	10		10	
b. Making a bookshelf (I)	5	10		10	
c. Making a feed rack for calves (I)	4	10		10	
d. Miscellaneous work (I)	3				
2. Selecting the breed of pigs (I)	2	10		10	
March—23 days					
1. Pruning grapevines (G)	2	15		15	
2. Selecting the individual pig (I)	2	10		10	
3. Housing pigs (I)	3	15		15	
4. Procuring pigs (I)	1	10		10	
5. Feeding growing pigs (I)	3	25		25	
6. Procuring calves (I)	2	10		10	
7. Fitting land for potatoes (I)	3	10		10	
8. Procuring seed potatoes (I)	2	5		5	
9. Planning an F.F.A. fish fry (G)	2			10	
April—22 days					
1. Providing pasture for pigs (I)	2	20		20	
2. Providing pasture for calves (I)	3	15		15	
3. Planting potatoes (I)	3	10		10	
4. Cultivating potatoes (first) (I)	2	5		5	
5. Cultivating potatoes (subsequent) (I)	3	10		10	
6. Controlling potato and flea beetles (I)	3	15		15	
7. Controlling blight (I)	3	15		15	
May—					
1. Harvesting and storing potatoes (I)	3	5		5	
Jobs to be planned and executed in session of 1937–38, but to be counted on 1936–37 program.					
1. Feeding pigs for fattening		10		10	
2. Butchering		10		10	
3. Curing and storing meat		10		10	
4. Marketing meat		5		5	

Distribution of scores assigned in the preceding program:

	Planning	*Doing*
1. Supervised Practice jobs		150
2. F.F.A. jobs		50
3. Farm shopwork	50	50
4. General jobs or problems	25	25
5. Pigs for pork	135	135
6. Dairy calf	90	90
7. Potatoes	100	100
Totals	400	600

Creating a Demand for a Vocational Agricultural Department

M. F. ROSS, Instructor,
Fish Creek, Wisconsin

THE vocational agricultural education program, made possible by the Smith-Hughes Act, has to some extent lost its identity and effectiveness as a vocational subject amid the general academic entanglement of the high school curriculum. The agricultural course, and consequently the department, in many instances, has gradually merged from a very weak vocational status to one of definite avocational status. This, of course, is a decisive defeat to the work as agriculture can avoid this difficulty if he will practice certain precautions right at the start—if possible at the time of his application for the position. The school board, the principal, the superintendent of schools, and the teacher of agriculture should very carefully map out a plan for the development of the department so there is a mutual understanding of what the department will accomplish. This, I feel, will give the instructor greater freedom to use his creative ability in obtaining the organization he knows will be necessary for the type of program he plans to put into force. The instructor can at this time stress the vocational agricultural program as it affects the all-day pupil, the part-time pupil, and the

During the first year in a new department, I would recommend that the instructor do his best as a classroom teacher so as to gain completely the confidence of his all-day pupils. Utilize student activity in the classroom whenever possible and organize an active Future Farmers of America chapter.

Soon the instructor will have the opportunity of meeting the boys' parents, for if the boy is completely satisfied, he is sure to mention the instructor at home. Upon meeting the parents of the all-day pupils, the instructor is immediately in a position to figure in the agricultural activities of the community. Perhaps an evening school should be arranged the first year, using as a nucleus those parents with whom the teacher is acquainted. Several more intimate contacts with parents can be made when the boys' supervised practice program is being arranged. The first year should serve as an opportunity for the instructor to make the acquaintances that will prove valuable among those interested in the farming occupation, as well as to analyze the problems that are of greatest concern.

If all minor details have been closely watched and considered, certainly the department has taken on a healthy spark of life. At this time adequate room and facilities usually become a problem. Seldom can shop facilities be supplied without some further alterations in the building setup. Remember that growth cannot be expected to continue at a satisfactory rate unless ample room and facilities are afforded the department. In our particular case, it was necessary to erect a new building 30 x 60, housing the shop and classroom, to replace what was previously used, a classroom 14 x 18 and a shop 12 x 16. I feel that our growth had reached its peak under the conditions existing and space provided before the new building was erected. Now, growth and expansion are unlimited and will be directly proportional to the amount of time, drive, and enthusiasm that is put into the task by the instructor.

1. Never slack up on the amount of time given preparation for your regular all-day classes.

2. Never slack up on the amount of enthusiasm with which the presentation is made to the all-day classes.

3. Strive to connect the classroom work as closely as possible with the boys' home problems, and carry the boys into the field whenever possible.

4. Organize an active F.F.A., and be sure that it is purely a student organization under supervision of the adviser, and not an adviser's organization.

5. Motivate the boy and his parents to set up definite long- and short-time supervised practice on the home farm.

6. Make the agricultural building headquarters for agricultural activity in the community.

7. Help the adult group solve their problems thru properly chosen subject matter to be studied in evening school groups, and follow up to see that they are actually employing the improved practice.

8. Strive to get co-operative effort.

9. Keep your school board, principal, and superintendent well informed as to what activities you are trying to promote.

10 Make your work as pleasant as possible to all concerned.

Group and Individual Instruction for All-Day Students

A. W. TENNEY, Teacher Training, Gainsville, Florida

(This article is the second in a series. It follows the article on "Preparing the Course of Study in Vocational Agriculture for Students in All-Day Classes" by Dr. E. W. Garris, which appeared in an earlier issue of this magazine.)

A. W. Tenney

A COURSE of study based on establishing each student in a specific type of farming will require two types of instruction, group and individual. Problems that are common to all students should be taught to the group. Among those that will need to be taught to the group are jobs in farm shop, land laboratory, farm management, Future Farmer activities. Problems of an individual nature should be solved by the student during individual study periods. It is impossible to state the amount of time that should be devoted to group instruction and individual study. This has to be determined largely by the teacher himself. The experience of the writer has led him to believe that from 25 percent to 50 percent of the time may well be used for individual study.

While preparing for group instruction a teaching plan should be made. The following method of planning has proved very satisfactory.

TEACHING PLAN

Enterprise—Poultry
Job—Buying baby chicks
Objective:
A. Present:
To assist the pupil in deciding the number and quality of chicks, time of the year to buy, and where to secure the chicks
B. Long Time:
To produce poultry efficiently
Methods:
A. Preparation
1. Secure the following information from each pupil:
a. How many have purchased chicks before
b. Where they were bought
c. Price paid
d. Success in producing
2. Create interest
Cite cases (story form)
3. Analysis
Things to know: (given in question form)
a. Where may chicks be bought?
b. What will chicks cost per hundred?
c. What will chicks cost when bought cooperatively by the thousand?
d. Where should chicks be purchased?
e. How may the reliability of a dealer be determined?
f. What are the advantages and disadvantages of purchasing sexed chicks?
g. Name and define the grades of chicks sold on the market.
h. What is the meaning and value of blood testing?
i. State the advantages of buying chicks locally.
B. Presentation
1. Supervised Study
Boys use references and study facts to help them in answering the questions under the analysis
2. Illustrations
Present charts on purchasing chicks
3. Discussion
Teacher uses new or reworded questions to direct application of information gained by pupils in study period.
C. Application
Have each boy prepare a plan for purchasing chicks according to his needs.
D. Testing
Check the results the boy obtained in purchasing chicks.
References:
1—Growing Healthy Chicks and Pullets, Bulletin, University of Florida. Exp. Sta.
2—Poultry Catalogues
3—Poultry Enterprises—Lippincott, pp. 288–308

It is well to have students copy the that the facts and solutions they copy down will be of value to them. It will save the teacher much time in lesson planning and will lead to better lesson plans if he will keep before him a list of the devices which may be used under the different steps in teaching. A copy of such a chart follows:

Devices which may be used in teaching:

PREPARATION	PRESENTATION	APPLICATION	TESTING
Purpose 1. Find out what the boys already know 2. Create interest	*Purpose* To present information or skills	*Purpose* To provide an opportunity for planning and doing under supervision	*Purpose* To do without supervision
Devices: 1. Questions 2. Review 3. Illustrations 4. Tell jokes or stories 5. Exhibit 6. Group experience 7. Find out things to know 8. Study data 9. Situation to be dealt with	*Devices*: 1. Supervised study 2. Lecture 3. Visual aids a. Movies b. Talkies c. Pictures 4. Group discussion 5. Field trip 6. Illustrative material 7. Demonstration 8. Survey 9. Topic assignment	*Devices*: 1. Work in field laboratory 2. Farm shop 3. Laboratory 4. Field trip 5. Supervised practice 6. Demonstration by student 7. Co-operative activities 8. Individual planning 9. Group discussion	*Devices*: 1. Supervised practice 2. Home farm 3. Problem solving 4. Farm shop 5. Laboratory 6. Field laboratory 7. F.F.A. 8. Test and examination

Methods of teaching used in individualized instruction are quite different from those that are used in group instruction. After a boy has determined the enterprises which he wishes to include in his type of farming it is necessary for him to select the jobs or problems he will face for more than a year in advance. Some teachers prefer to have the boys select the jobs only a month in advance. The important point is to have the boy keep planning so he will never run out of individual problems to solve. The following outline has been used with success by boys in planning their individual course of study.

COURSE CALENDAR

Hans Wenzel, January, 1936

JOBS	Date Completed
1. Brooding baby chicks	Jan. 6
2. Feeding baby chicks	Jan. 9
3. Determining green feed to plant for poultry	Jan. 15
4. Selecting the variety of feed crops	Jan. 20
5. Making feeding appliances	Jan. 24
6. Choosing a variety of sweet potatoes	Jan. 28
7. Securing seed potatoes and planting a bed	

It has been found practical to have a student use the following steps in individual problem solving. First, he must decide what job he will study. Next, he will list the things he will need to know in order to solve the problem. After he has listed all the "things to know" that he can think of, he takes his list to the instructor for checking. The teacher will add others and perhaps eliminate some. Now the student is ready to find his own reference material. When he secures all the references he thinks he will need, he studies carefully in order to find the proper facts needed to solve his problem. He makes notes of things that will help him. After he considers all the facts in the case he decides how he can best solve his problem and makes proper plans. When he has completed the latter step he takes his notes and solution of the problem to the teacher for checking and grading. The teacher checks his work carefully and gives him a grade or requires him to secure facts in addition to those he has if his conclusions are not soundly based.

The following job sheet will illustrate the type of analysis that should be made by a boy working individually:

A teacher who uses individualized instruction is faced with the problem of how to keep a record of the jobs studied by the different students. This problem may be solved by preparing a chart similar to the following. This chart will make it easy to keep a permanent record providing the teacher has mimeographed the analyses of enterprises into jobs and has given them to all students. If this has been done all students will have their jobs numbered alike:

JOBS STUDIED BY ALL DAY STUDENTS, 1935–1936

Student's Name	Poultry	Swine	Dairying	Watermelons Canner Sweet Potatoes, Etc.
Grady Allen	1–2–3 4–5–6 7–14–16	2–4	3–6	7–14
Bill Carter				
John Jones				
Jobs studied in group instruction	8–9 15–17	1–3 5		

EXAMPLE OF JOB SHEET USED FOR INDIVIDUALIZED INSTRUCTION

Job: Treating truck and field crop seed
Grade..... Date completed.....

THINGS TO KNOW	STANDARD PRACTICES
1. What seed to treat	Bean, cabbage, cantaloupe, cauliflower, celery, tomato, eggplant, pepper, watermelon
2. When to treat seed	Before planting
3. Materials to use	Bichloride of mercury or Semesan
4. How to prepare solution	Dissolve 1 part bichloride of mercury in 100 parts water. 1 tablet to 1 pint
5. Equipment needed	Cloth bag, wooden tub, or crock
6. Amount of solution	Enough to cover seed
7. Length of time to leave in solution	Tomato, pepper, eggplant, cucumber, cantaloupe, and watermelon—10 minutes; others listed—15 minutes
8. Value of seed treatment	Kills fungus spores on seed coat
9. How to dry	Spread on newspaper or cloth in sun
10. When to plant	When they are dry
11. Cost of materials	2c for bichloride of mercury tablet
12. How to dispose of solution	Dangerous—where it will not be drunk by animals
13. Number of times to use solution	Not more than three times

I plan to use bichloride of [illegible]

Keeping Pace With Science in Instruction in Livestock Selection

(Continued from page 117)

and butterfat production, efficiency in converting feed into meat, amount and quality of wool, and other utilitarian characteristics, we must select breeding stock which not only have these qualities, but which have the prepotency for transmitting these characters to their offspring. Many illustrations (all too frequently ignored) could be given of breeders who have been disappointed by the offspring from animals which placed high in the show ring, or which came from highly touted pedigrees, or which were themselves superior as producers.

It is figured by some experts in animal breeding that one offspring is normally as good an indicator of its parent's genetic constitution as the sire or dam of that parent would be, and that the average of three unselected offspring is as good an indication of the makeup of the parent as a complete study of that parent's pedigree. As the number of unselected progeny is increased the estimate of a given parent's makeup becomes more accurate than any estimate based upon the pedigree. Averages of six or more offspring serve as an index to the parent's genetic constitution to a far more accurate degree than the pedigree, type, or production of the animal in question.[6]

Thus, progeny tests become very important in constructive programs of livestock improvement. In Denmark, thru records kept on swine breeding stock for a period of many years, feed requirements have been materially reduced and carcass quality has been improved. Many Danish breeders keep lifetime production records on sows as part of the program of improvement.

Production records of dairy cattle were formerly regarded of value primarily for eliminating unprofitable producers. While this is a valuable consideration, of even greater importance is the use of long-time records for measuring the transmitting ability of sires and dams. Thru such records, constructive programs for herd improvement are made possible.

At the 1936 National Dairy Show held at Dallas, Texas, provisions were made for recognition of productive and breeding proficiency in the dairy cattle to be exhibited. In one class, groups of three generations of females were shown. Each trio consisted of a cow, her daughter, and her granddaughter. They tried to plan classes for this show that gave recognition to animals which have "proved themselves at the pail." These plans indicate a recognition of some of the shortcomings of the traditional show-ring procedures.

Implications for Instruction

Frequently, instructors take the viewpoint that class exercises in livestock selection cannot be planned to give adequate consideration to more than one procedure for selection. They may admit that production records are all right in their place, but argue that it is wholesale confusion to combine in the same point is to ignore the true-to-life situation in which the alert breeder of livestock considers as many of these aspects as available records permit.

Many practical exercises can be arranged in which the various criteria for selection are combined in different ways. The extent to which these can be used will depend upon the availability of herds and flocks for which fairly complete records are available. An instructor can do much to encourage the use of such records in connection with the projects of his students and by at least a few breeders in his community. The following exercises are illustrative of the possibilities for utilizing records in instruction which deals with livestock selection. Many modifications and improvements will be apparent to the alert instructor. Most of these, as they appear or in modified form, have been used by the writer.

(1) A group of dairy cows for which records are available is utilized for judging in the conventional manner. After placings are made by the students, the records (computed on a mature basis) are then made known to indicate the probable inaccuracies of type as an index to production.

(2) A similar group of dairy cows is selected for which production records are available. The records are made known beforehand, as well as the lengths of the periods of pregnancy and lactation for each cow, and the students are asked to place them in order of merit on the basis of both type and production. A predetermined weighting can be agreed upon, such as equal emphasis on type and production. (One suggested procedure is to allow the same range in scorings on type as exists between the low and high producers in pounds of butterfat.[7])

(3) A group of gilts is provided with the litter mates available for each gilt in the group. Information is made available relative to the number of pigs farrowed and the number raised in each litter, the litter weights at eight weeks of age, and possibly the total weight and range of weight within each litter at six months of age. With this information and what can be determined by inspection, the students are asked to select the gilts of highest probable value for breeding stock.

(4) A class of brood sows is made available from which it is planned to select a certain number for future breeding stock. Litters from each are shown, with information on number of pigs farrowed by each, number of pigs raised to weaning, weights of litters at 56 days, etc. All information available thru records and by inspection is utilized in the selection of the sows.

(5) A group of ewes is provided from which selections for breeding stock are to be made. The lambs are shown, and information is given relative to their weights at 120 days, the length and weight of the fleece for each ewe for one year or more in the past, and the past lambing records, etc. All information is utilized, and the students are asked to indicate the ewes they would discard.

(6) A similar exercise is provided with offspring available for more than one generation. By this means, prepotency for several generations can be [illegible] of each cow and their records are available. The various groups of offspring are evaluated by groups.

(8) Exercises may be provided in which the get of different sires are compared. (These exercises have many possibilities for various kinds of livestock.)

(9) An interesting classroom exercise to show the fallacy of selecting bulls on the basis of type and pedigree consists of pictures of several sires and the production of the dam and granddams of each. After selection on the basis of this information, the daughter-dam comparisons are made known and the index for each bull is computed. The ranking in terms of value to the herd is then apparent.[8]

Improvement of Judging Contests

The conventional judging contest has certain objectionable features, but some of these can be overcome without discarding the contest idea entirely. The validity of these contests can be improved by including some consideration for data on production ability of the animals in question. For example, a contest was recently held here at the Platteville State Teachers College in which the classes of dairy cattle were placed on the basis of both type and production. A 50-50 basis for weighing these factors seems to be worthy of consideration. Other possibilities for various kinds of livestock are suggested by some of the exercises previously listed.

It appears that certain features of the usual judging contest may result in a reliability so low that sheer luck to a considerable degree may determine the ranking of the individual contestants and teams from various schools. The judging forms may be one reason for this. The usual judging form with five or less items for comparison may be low in reliability unless many more classes than usual are judged.[9]

Other factors responsible for error in judging contests may include the peculiarities of emphasis by different official judges, lack of uniform directions to contestants, poor conditions for judging, and the like. Unless conditions such as these are improved, there is little justification for a continuance of judging contests.

The writer does not wish to leave the impression that these suggestions for improving our instruction in livestock selection are in any way final. All people responsible for instruction which deals with the selection of livestock should strive to improve their procedures by utilizing new developments which have appeared and which will continue to appear in the future.

1—From investigations by the writer.
2—Some of the comparisons in this paragraph are based upon class notes from Dr. J. L. Lush, Iowa State College.
3—Data for the contest were furnished by G. E. Dickerson of the Farm and Dairy Records Office, Wisconsin College of Agriculture.
4—Whitson, Jay, "A Butcher Judges the Burrows," *Wallace Farmer*, Sept. 6, 1930, p. 16.
5—Coffey, W. C., *Science*, Vol. 82, No. 2117, July 26, 1935, pp. 10–11.
6—Lush, op. cit.
7—This method was suggested in part by Prof. I. W. Rupel of the College of Agriculture, Madison, Wisconsin.
8—Suggested by Mr. Jack Nesbitt of the *Hoard's Dairyman* staff. Data available in *Better Dairy Herds Through Breeding*, published by W. D. Hoard and Sons, Fort Atkinson, Wisconsin.

Farmer Classes

Building a Program of Social, Civic, and Recreational Activities for the Part-Time Class

JOHN H. LEONARD, Instructor,
Van Wert, Ohio

A PART of the work of the instructor in vocational agriculture is to have a well organized program for the part-time group as well as for the F. F. A.

The social side of our part-time program is very important and should be included whenever part-time instruction is given. The planning of this part of the program should be given just as much thought and consideration as the instructional part.

The part-time group at the Ridge School was organized in 1929 under the name of "Ridge Farming Club." From 1931 until 1934 the practice has been followed of having the president appoint a committee one month in advance to have charge of the next social meeting. There was not much interest shown in these meetings because of the hastily prepared and unplanned programs presented. These social meetings were held in addition to the regularly scheduled weekly class discussion meetings.

Merl Knight, president, operating duster owned by the association

In the spring of 1934, a new constitution was adopted. We now have three types of members: (1) *Active*—Anyone who attends three or more part-time meetings and makes application accompanied with 25 cents. (2) *Associate*—Former active members who are not able to attend part-time meetings but want to hold membership in the association. (3) *Honorary*—Those who are interested in the association; they may be voted to such membership by active and associate members of the association. We have monthly dues of ten cents per member. The other parts of the constitution are similar to that of most organizations.

In the spring of 1935 a committee appointed by the president made a program of activities for 1936-37. Our group sets up a new program each spring at the time of the election of new officers, so the organization can be in full swing when the graduating high school seniors come into it. The program is mimeographed so that each member may have a copy. A program calendar 14x22 inches was made by a local show-card writer, at a cost of 60 cents, and placed in the vocational agriculture room. This was found to be useful during the year.

This year a letter with one of our programs was sent to each speaker. Also the chairman contacts the speaker before the meeting date.

In our programs we have designated the meetings as "Memorial Night" or "School Night" in order to have one general theme at each meeting. The chairman will center all his program ideas toward that goal. We secure speakers well fitted to speak on each of the topics selected.

Some of the program suggestions for the chairman to select from are: vocal and instrumental music, current topics, parliamentary procedure, speaker, contests, games, impromptu and extemporaneous speeches, and association jokes. We serve some kind of refreshments at each meeting, and the program chairman is responsible for them. Some of the refreshments we have are ice cream, sandwiches, popcorn, watermelon, coffee, cocoa, etc.

For the past year some of the activities of the Ridge Young Farmers' Association carried on in addition to its regular instructional program are: helping with the local farmers' institute management; putting on a play and holding a raffle of a gilt to help finance the institute; securing certified and hybrid seed; operating a potato duster; holding a horse-shoe tournament; closing the short course in the spring with a party; doing repair jobs for local farmers; holding one or two part-time courses each winter; and playing basketball with other part-time organizations.

PROGRAM OF SPECIAL MEETINGS, 1936-37

(This program is in addition to weekly meetings of the part-time class held during the winter months to study some unit in agriculture.)

DATE	COMMITTEE	PROGRAM	SPEAKER
May 11	M. Knittle C. Johnson	Memorial Night	Jess Beam
June 8	E. Pollock H. Reed	Travel Night	Rev. Campbell
July 13	K. Reidenbach B. Mager	School Night	Guy Giffin
Aug. . 10	J. H. Leonard R. Duprey	Horseshoe Tourney	Tourney Winner
Sept. 14	E. Clark M. Lytle	Sports Night	Fred Huffman
Oct. 12	R. DuVall D. Pollock	Health Night	Dr. W. E. Beach
Nov. 9	D. Cooper D. Reed	Hunting and Outing Night	Dr. M. Fowalter
Dec. 14	H. Pollock M. Knittle	Christmas Night	Rev. Paul Erney
Jan. 11	R. Duprey C. Lytle	Thrift Night	Homer Gilliland
Feb. 8	M. Lytle J. Cowgill	President's Night	O. W. Priddy
Mar. 8	J. Thurston J. Tomlinson	Livestock Night	Dr. W. L. Tanner

Fourteen Years of Part-Time Work

F. J. RUBLE, Critic Teacher,
Grove City, Ohio

YOUNG farmers have been meeting in part-time classes at Grove City, Ohio, for the past 14 years. This group was among the first organized in the state and has been active longer than any similiar group in Ohio.

Part-time courses had not been offered very long at Grove City until the members decided to form a permanent organization, now known as the Young Farmers Association. Better educational, social, and recreational opportunities for young men of the community are objectives of the group. This association has served as a stimulus to the organization of similiar groups, of which there are now well over 100 in Ohio.

There are 50 young men living on farms near Grove City, a majority of whom have attended part-time class meetings each winter. With the help of the teacher of vocational agriculture these young farmers have planned a number of activities which they believe will make their lives more enjoyable as well as increase their farm incomes thru a better understanding of production and management problems.

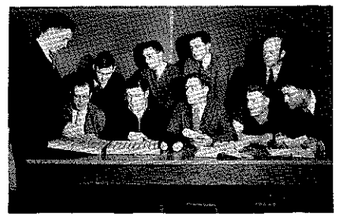
The interests of the group have been considered in developing a program of activity. At first the part-time class was interested mainly in mechanical courses, later in production courses, and in recent years the trend has been toward manage-

the 14-year period with one exception, when it dropped to 17.

Besides being interested in educational work, the Young Farmers Association has taken an active part in community activities, has taken a part in the local homecoming, and has helped beautify the high school grounds by purchasing shrubbery.

Social activities include parties in both the spring and fall and a picnic in midsummer, to which girl friends are invited.

One of the high points during the summer is a trip to some place of general interest such as the National Capitol at Washington, D. C., or Mammoth Cave, Kentucky. Scenic, historic, and agricultural interests are considered in planning these recreational trips. Plans are now being made to visit some of the industrial plants at Detroit and Henry Ford's Greenfield Village, to take a side trip across the river to Canada, and then to go to a lake in northern Michigan for fishing and camping. Such trips are commonly taken about the first of August at the close of the threshing season.



Reading Results

These Young Farmers in the Grove City part-time class in vocational agriculture are determining the results of their seed corn tests under the direction of F. J. Ruble, their instructor. Left to right: F. J. Ruble, instructor of vocational agriculture; top row: Ralph Schoch, William Bettinger, Alfred Schoch, Millard Stilling; Bottom row: Sam Taylor, Stanley Taylor, William Iftner, Arthur Goldhart, Edgar Gochenouer

Students Are Successful in Farming

William Iftner has attended all the part-time classes during the 14 years and was a charter member of the Young Farmers Association. As his father was dead, Iftner did not have an opportunity to attend high school, for it was necessary for him to operate the home farm as best he could. Iftner has been interested in increasing crop yields. He was among the first to use certified seed corn. It did so well that he produced certified seed for sale for several years. He was the first in the community to try hybrid seed corn. The results were so satisfactory that 50 farmers are using it this year. Mr. Iftner has 34 acres planted to hybrid seed this season and in addition is producing four acres of single cross hybrid seed for sale. He has used commercial fertilizer on corn for several years even tho the soil is naturally fertile. Purebred Hampshire swine are included in the livestock program, and horses and cattle are being improved thru the use of purebred sires. In addition to farming 70 acres of the home farm, Iftner is renting 60 acres of crop land from a neighbor.

Elmer Sierman is another young farmer, who, after graduating from high school, has taken an active part in part-time meetings. Elmer is in partnership

from 100 to 600 hens under his care and was one of the high-producing flocks in the county all winter. Young Sierman raised 700 baby chicks early this spring with a mortality of 4 percent. He is now using the same equipment to brood another 700 chicks.

Elmer has also remodeled, insulated, and wired his poultry house. Profits from the poultry enterprise have helped materially in paying household and farm expenses during the depression period. He has been breeding purebred Hampshire and Poland China hogs, using recommended feeding and sanitation practices. As a result of the part-time work improvements have been made in crop production thru liming the soil, growing alfalfa, fertilizing corn, and using hybrid seed corn. Sierman is a member of the soil conservation committee for his township.

A continuous effort has been made during the last 14 years to appeal to the interests of the out-of-school young men of the Grove City Community. That this effort has been reasonably successful is shown by their general interest and regular attendance in various group activities whether educational, social, or recreational. The writer believes that, in many other vocational agricultural departments thruout the country, there are similar possibilities to develop a program with young men. The opportunity awaits us, the harvest is ready, why not give them a helping hand?

A Young Farmers' Discussion Group

GEORGE D. DERR, Teacher,
Huntington Mills, Pennsylvania

FOR the past several years I have been connected with schools that have been conducting discussion groups for adult farmers. We have called them farmers evening classes. During the winter just past I came to the conclusion that vocational education had a bigger problem—that of the boy 18 to 25 years old who is not in any kind of school. I have enjoyed the association with adult farmers, but I feel that, because of the efforts of the extension people, the farmer has not been neglected educationally as much as his son.

In the previous year our all-day class in rural sociology conducted a survey thru which we found that there were in our patronage area 156 boys between the ages of 18 and 25 who were not in school. We also found that over 50 percent of these boys were not gainfully employed.

From the survey facts, it was evident that we had two distinct types of boys. First, there was a group of boys whose background was entirely agricultural. Their parents depended entirely upon their farms for a living. Secondly, parents of the other group depended chiefly on work in the anthracite coal mines or other industrial work associated with the mining of coal for their living. This district borders the richest anthracite coal area in the country, and many of the people work in the mines commuting to their small farms. On these farms they raise enough to partially support their families and at the same time avoid

groups. It was finally decided to offer several subjects and to let the boys decide for themselves the subjects they wanted to discuss. The subjects were as follows: poultry, dairying, farm management, and accounting. These courses we had no doubt would satisfy the first group. We also decided to offer mechanical drawing and farm mechanics in the hope of interesting the boys from the farms in the industrial group. With this tentative set-up we were ready to recruit our classes.

During the winter a letter was sent out explaining these courses and asking the boys to come to the school building for a meeting. This letter was sent out to each of the 156 boys located in the survey of the previous year plus 16 others located when the survey was brought up to date. We were very agreeably surprised when over 40 attended the first meeting. At this meeting the boys were asked to designated the course they wished to pursue. The result was 8 wanted a course in poultry, 8 wanted dairying, and 16 wanted mechanical drawing. It may be well to say a word more about these boys wanting to study mechanical drawing. Most of this group has an opportunity to secure work where a knowledge of reading blueprints and the making of working drawings was essential. We felt that insofar as this group had no other chance to get this work it was the duty of the school to provide it.

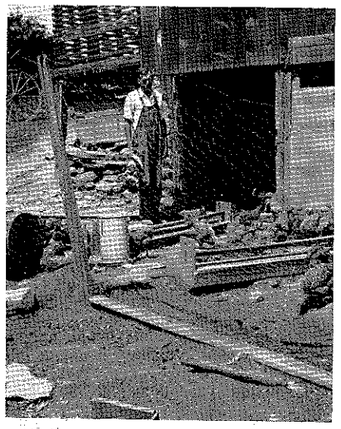
The courses were arranged to run two hours per week for six weeks. Let me make clear that six weeks is too short a time to devote to any of these subjects, but there was no more time available in our case. Dairying came on Monday night, poultry on Tuesday, and mechanical drawing on Wednesday. The subject matter in the three courses would be too lengthy to give in detail in an article of this kind. I do wish to call attention to a few things that I consider very important. We made use of worksheets in each of the three courses. If there is any one thing I wish to pass on it is this, keep them busy. Make your worksheets so there is a definite job for the student which is connected with some problem in his daily life. I will give a sample of the worksheets we used in the three courses. It is well to remember that a large amount of reference material was laid out before the students arrived. This material was carefully labeled so there was no chance of the student missing the important facts each contained. The course in dairying was designed primarily to get these young people to use better practices in feeding. The main thing we wanted to do was to increase the use of legume roughage. The following worksheet will show how we preceeded.

WORKSHEET ON FEEDING DAIRY COWS

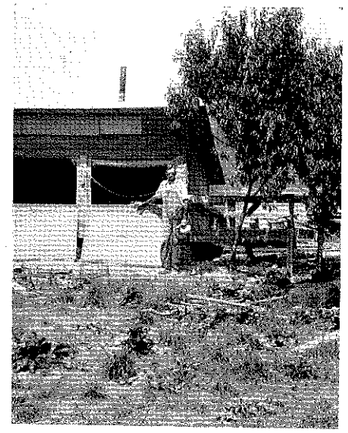
Introduction: Two purposes of feeding dairy cows are, first, to maintain the cow's body at its normal weight, and, second, to enable the cow to produce milk.
Problem: To find the difference in the cost of feeding a cow on a balanced ration using timothy hay, and using a legume roughage.
Information needed: How to balance ration. Cost of various feeds. Kinds of feeds available at home. The weight of

2. Weight of cows in home herd.....
.....average
3. Total weight of herd.....
4. Total pounds of milk per day.
5. List feeds available at home with price.
6. List feeds available at mill with price.
7. Balance a ration using timothy hay and such other feeds as are necessary.
8. Find cost per day.
9. Balance a ration using alfalfa hay and such other feeds as are necessary.
10. Find cost of second ration per day.
11. Compare prices.

It is evident from the above worksheet that a knowledge of feeding standards is essential. This was taught in the preceding lesson. The dairy course consisted



Past



Present

of the following topics: feeding standards and working rations; comparing roughages; comparing protein supplements; comparing barns to lessen labor costs; establishing permanent pasture; and review and individual problems.

The work in drawing had to be largely individual on account of the difference in aptitude and experience. We took concrete problems from the students' daily work and had them worked out by the students on the basis of individual instruction. For the boys who had no ideas at all concerning this work, we gave the problem of drawing an oil stone box. In this way he learned the

The work covered in poultry was as follows: feeding laying hens; feeding chicks; sanitation in chick raising; caponizing and care of capons; prevention and treatment of disease; and review and individual problems.

This year three of our regular students working on National Youth Administration funds did all the clerical work, prepared the lessons, and assisted the teacher in conducting the classes. Without this arrangement, I do not know how the work could have been accomplished, as the teacher has every period of the week taken by regular all-day classes.

We had in this section of Pennsylvania a very severe winter and spring. The groups met regularly, only being postponed one week due to flood conditions. Despite the weather handicaps our attendance kept above 85 percent, proving to me the demand there is for this kind of instruction.

You are probably asking what improved practices resulted, which after all is the measure of success for these groups. You are undoubtably asking what supervision of practice was given. We have 48 all day students scattered over a radius of 20 miles and 32 study group students, so the amount of supervision is limited. We have five boys who have built modern brooder houses and are raising the family flock by the sun-porch method. They are having remarkable success where heretofore coccidiosis reigned supreme. The illustrations show this to a good advantage. The first picture is the typical method of housing poultry on many of these farms. The second picture shows the boy's house after he had the benefit of this discussion group. We have four young men who are at the present time engaged in establishing permanent pastures. These nine boys are outstanding examples of the success of these study groups. The rest are doing their regular work with better success than the average boy not having the advantage of this work. One of the great benefits that these boys no longer hesitate to bring their problems to the school.

In conclusion, let me leave a few things for you to consider if you are contemplating such a study group this year. First of all know your subject matter twice as well as for your regular classes. Nothing causes this student to lose interest so quickly as finding the supervisor is not sure of himself. Do not try to cover too much territory; remember that this group has been out of school a long time, and some of them may have very little education. Do not ask your group to remember facts and recite them, rather give them something to do with their hands. Give them a pencil and paper with a definite problem from their daily life and guide them in solving it. The more visual material you have before them the better they will solve their problem. The order of value which I give to visual material is movies, slides, and charts. Just remember that the part-time student is the same type of human being with a different background as the all-day student. Do as little talking as possible, show them, but above all let them do the work for themselves. It seems to me that every teacher of agriculture in

Evening Class for Community Needs

PAUL N. SHAFER, Instructor,
Winfield, West Virginia

I BELIEVE that evening class work among adults (men and women) offers a real opportunity for the Vo-Ag teacher to accomplish something worth while and to further extend his services in the community.

Before I started my evening class at Winfield I visited a number of the key farmers of the community and asked them if they would be interested in attending evening class and what they would like most to study. We also studied local markets in order to determine what the farmers should produce. From our survey of the community and the markets, we have come to believe that this community should produce poultry and potatoes.

In 1934 we conducted two evening classes, one on poultry and the other on potatoes. In the poultry course, which consisted of ten lessons, instruction was given in management of the adult flock for egg production and raising baby chicks. The potato course was divided into ten lessons. The outlines of the two courses are as follows:

Poultry

1. Culling poultry
2. Housing poultry for egg production
3. Feeding for egg production
4. Using lights
5. Preparing seed fertilizer
6. Getting brooder equipment ready
7. Brooding chicks
8. Marketing fryers
9. Summer management
10. Getting pullets ready for egg production.

Potatoes

1. Possibilities of potatoes
2. Selecting and plowing ground
3. Selecting seed potatoes
4. Securing and applying fertilizer
5. Preparing seed bed
6. Planting seed
7. Cultivating potatoes
8. Spraying potatoes
9. Harvesting

The next year (1935) no instruction was given in potatoes, but two courses in poultry were given. Also one course, producing baby chicks, was given at a one-room school-house within the patronage area of the school 14 miles distance.

In studying egg production and baby-chick production last year, I attempted to cover too much in the number of meetings held. This year the poultry courses were reorganized, one course based on managing hens for egg production and the other on baby-chick production. The outlines of the two courses are given below(one meeting to each job except as otherwise indicated):

Keeping Poultry for Egg Production

1. Culling the flock
2. Constructing a poultry house
3. Putting flock in winter quarters
4. Feeding for egg production (2)
5. Using lights
6. Sanitation in house
7. Producing infertilization eggs

Baby Chick Production

1. Selecting breed and purchasing chicks
2. Constructing a poultry house
3. Putting flock in winter quarters
4. Feeding chicks
5. Buying feed
6. Insuring sanitation
7. Feeding and care of cockerels
8. Summer management of pullets
9. Keeping records
10. Preparing poultry for market
11. Establishing co-operative market (3)

On Saturdays and during the summer months I make frequent visits to the enterprises of those who are evening-class members. I try to give as much attention to them as to the boys in my all-day classes. I try to make these visits when I think there are problems to solve or when I think I can be of service.

The teacher may often be disappointed because he does not have as many attending evening class as he thinks ought to attend. He should not become discouraged, but work with the few that he has, and as time goes on he may expect the interest in his work to grow.

At Winfield, we expect to conduct classes in poultry each year. Altho there will be repetition, the members will all the time have problems arise that they will want to have discussed, and they will have sufficient new experiences to study the same course each year.

Farm Mechanics Evening Classes

E. M. POHLE, Instructor,
Wheatland, Wyoming

DURING my first year in the Wheatland community, it was rather hard to determine just what kind of evening school would be best. After considering the following facts, I concluded that a farm mechanics school would be most beneficial.

First, after looking over past records of the vocational agriculture department, I found there had never been a farm mechanics school conducted; second, considering the shortage of irrigation water for the coming season, because of the drought years, I felt there would be more interest shown in learning to do their own repair work for the better years ahead; third, I felt sure their interests run stronger to mechanical work because they could accomplish much of their spring repair work while learning.

When the school was decided upon and a date set for the first meeting, I secured the county agent's mailing list and wrote circular letters to many of the farmers. Contacts were also made by running articles in the local newspapers before and after the meetings were organized. In all, much interest was aroused, there being 16 present at the first meeting.

At the first meeting it was decided to hold class twice a week. The meetings were always started at seven-thirty, and we tried to close at nine-thirty, but many times it was eleven o'clock before some were satisfied to depart. Our next step consisted of outlining the work and setting up the course in which the farmers were interested. This was developed

OUTLINE OF THE COURSE:

BLACKSMITHING:
1. Forge fire
2. Making chisel
3. Making punch
4. Making tongs
5. Making hammer
6. Chain repair links
7. Plow bottoms
8. All general repair

WELDING: (Types)
1. Split
2. Lap
3. Butt

TEMPERING:
1. Proper heat
2. Degrees of hardness
3. Water temper
4. Oil temper

TOOL SHARPENING:
1. Fitting rip, cross-cut, and timber saws
2. Grinding bits
3. Grinding ax
4. Grinding drills
5. Plow bottom points, cultivator shovels, etc.
6. Operating taps and dies

CONCRETE WORK:
1. Mixing and setting concrete
2. Constructing concrete floors, foundations, walks, troughs, and steps

FARM CARPENTRY:
1. Performing ordinary farm construction work as needed
2. Cutting rafters

HARNESS REPAIRING:
1. Standard harness stitching operations
2. Cleaning and oiling harness
3. Riveting with and without a machine

SOLDERING:
1. All standard soldering operations
2. Repairing holes and seams
3. Sweating on a patch

TANNING HIDES:
1. For leather (hair off)
2. For robes or shaps (hair on)
3. Use of leather
4. Cost

WOOL SCOURING AND CARDING:
1. All operations, solutions, ingredients, and use of wool
2. Carding demonstration
3. Cost

There were additions made to the outline from their suggestions which have been included.

As there are but very few genuine blacksmiths in the small communities, we were fortunate to secure a competent and well qualified blacksmith thru the adult-education program. He supervised the blacksmithing while I took charge of all other work, and a much better type of instruction resulted by having two people supervising the program. Thru undivided attention we were able to give the individuals help on all important operations, and very good work resulted.

Many times the evening was started by each member making a practice sample of whatever unit we were working on. After passing inspection they were allowed to work on their individual work, which they brought with them. By this method a thoro knowledge is gained and the individual is able to do a much more polished piece of work.

During the course of the meetings, we constructed a forge, for our agriculture shop, from an old corn-binder wheel. This created much interest and good instruction for the farmers, as it gave them the opportunity to see each step in the construction. Two men have started a forge for their own farm shop, and there will no doubt be more when the time permits. These are very encouraging results.

Interest grew so keen that when ten meetings were completed a unanimous vote demanded a continuation of the school. The attendance grew from 16 to 61 persons.

In summarizing my experiences in teaching evening classes, I have concluded that a well conducted and worthwhile evening school has been an asset to our vocational agriculture department

Contact With Local Farm Bureau

J. R. REES, Adviser,
Columbus, Indiana

THE Bartholomew County Farm Bureau Board of Directors recently granted a non-voting membership to the Columbus, Indiana, chapter of Future Farmers of America. This action on the part of the Farm Bureau is highly commendable because it affords a chance for the two organizations to become better acquainted. The Future Farmers recognize that this offers them an opportunity to be of service to the senior farm organization; and since the ideals of the two groups are basically the same, it offers a chance for the development of a splendid program for the advancement of agriculture.

So far as I can learn, this is the first time that a Farm Bureau unit has extended such a membership to a Future Farmer chapter. We sincerely appreciate the co-operation and interests of the Farm Bureau and hope that we may be of equal service to them in the future.

Raising of Wild Game

RUSSELL M. STODDARD,
Camden, New Jersey

Editor's Note: The following is from an article appearing in the Camden, New Jersey, "Courier."

TWENTY-FIVE students who are members of the Future Farmers of America Chapter at Rancocas Valley Regional high school have started an experiment in the raising of wild game, under the supervision of Clarence B. Davenport, instructor. It is a program for the restoration of game, that will be placed around the hunting sections of Burlington county.

Students have chosen to start their work with rabbits. The rabbits will not be placed in the country until they have reached the age of two months.

The boys believe they can raise better game in their own state than that being bought from the western states by members of Fish and Game commission, and hope to propagate stronger and more healthful birds.

The first breeding pen was completed recently and has been placed on the farm of Clarence Grovart, a student. It is a large modern breeding hutch, which was constructed by members of the group, at a cost of $12.

Thirteen other members of the F.F.A. have obtained pairs of rabbits and have them housed in homemade pens on their parents' farms.

Each pen is four feet wide, eight feet long, and eight inches high. It has four compartments. By the time the rabbits have reached the fourth compartment they will be two months old.

The success of the rabbit venture will determine whether the propagation of other wild life will be undertaken by the group. Plans are to liberate 500 rabbits by fall.

The group is planning for a sporting-dog show which is to be conducted this spring. Considerable interest has been shown by students and sportsmen. A

Future Farmers of America

Co-operative Seed Service

ROY BRUBAKER, Chairman,
Lampeter, Pennsylvania

EDITOR'S NOTE: The co-operative seed service activity of this chapter has been carried out under the direction of Mr. Wayne B. Rentschler, adviser and teacher of agriculture in the local high school.

W. B. Rentschler

FROM its very beginning four years ago, the seed service has been a co-operative project conducted by the Garden Spot Chapter.

The idea originated in a classroom discussion of co-operation. The members of the chapter became interested in the co-operative movement and what it could accomplish if put to use in our community. We wondered what possibilities we had of introducing this idea to the patrons of our community. A seed co-operative was suggested. The Garden Spot Co-operative Seed Service has developed rapidly, with a most satisfactory increase in membership every year.

Our first problem was organization. This problem was soon solved by electing a committee headed by a chairman. The sole responsibility now rested upon this committee, altho many helpful suggestions were given by other chapter members.

Let us examine one year's action of the co-operative. First, an order-blank form was drawn up by the committee. Attached to this order blank was a list of suggested varieties recommended for our section of the state. These order blanks and the suggested varieties were then distributed by the Future Farmers. A date was set for the return of the orders. As they were brought to the committee they were itemized on one large chart. When all orders were summarized, the committee decided where to get the seeds. Most of the varieties were purchased from a local seed-house, as quality and service are assured. The seeds ual order. Regular paper bags and packets were used. Upon these were printed the F.F.A. emblem and the name "Garden Spot Co-operative Seed Service."

The filling of the orders was done systematically. The first step was labeling the bags. Labels stating the name of the co-operator, the amount and kind of seed, and the price were placed on the bags. This labeled bag was then passed to the next boy who marked on the co-operator's bill, the unit price, the co-operative price, the catalog price, and the amount saved. Next the container was filled and sealed.

Before distributing the orders, they were carefully checked for errors. Included with the order, when distributed, was the co-operator's bill.

The members do not pay for their seeds until they receive them. The chapter finances the service until the orders are distributed.

The summary of the four years' service will give one an idea as to the scope and success of our project:

Year	Number of Members	Pounds of Seeds	Co-operative Price	Catalogue Price	Amount Saved	Saved per Member
1933	20	90	$42.12	$68.81	$26.69	$1.33
1934	22	580	69.91	94.16	24.25	1.10
1935	53	2663	179.88	262.73	82.85	1.56
1936	63	3972 360 roots	332.17	438.82	106.65	1.69
Four Yrs.	158	7305 360 roots	$624.08	$864.52	$240.44	$1.52

The members of our chapter thought such a project was advantageous to the community, the co-operator, and to the sponsors as well. It was beneficial to the co-operator because he was given quality seeds at a low price. The community was influenced by the promotion of the co-operative movement. Needless to say, we learned the principles of co-operation.

Mr. L. R. Humphreys, State College, Logan, Utah, our new special editor for this section, is introducing a new feature. We trust the news flashes will give you many helpful ideas. He will be glad to receive

F. F. A. Chapter Sets Up Thrift Program

J. G. OWENS, Adviser,
Jackson Center, Ohio

PROVIDING first hand experience in thrift was the motive which promoted the Future Farmers of Jackson Center to organize a thrift bank.

Saving weekly earnings has proved to be a fascinating and popular activity. The chapter thrift bank was worked out by the chapter in co-operation with the local banker, who encouraged the idea and offered to furnish materials for the records. The chapter purchased small deposit books at a cost of four cents to each depositor. The book carries the printing "Thrift Bank, Jackson Chapter, Future Farmers of America, Jackson, Ohio." Tuesday is designated as banking day. Deposits are accepted from 12:15 to 1 p.m. each Tuesday in the agricultural classroom. To remind the boys of banking day a card bearing the words Thrift Bank is hung in the study hall on Monday.

The savings are recorded on special cards in the name of the individual boys. At the end of the banking period the money is taken to the local bank and deposited as a savings under the name of Jackson Center Future Farmers. These deposits draw two and one-half percent interest if left for one month to encourage the boys. The chapter funds are kept on record as one of the depositors, saving the service charge of a regular checking account.

As soon as a boy has deposited $1, it draws interest if left on deposit for one month. Money can be withdrawn any banking day. Twenty-five chapter members have deposits and some have saved as much as $9 since last November.

The Jackson Center Chapter plans on using the bank similarly to a credit union. If a Future Farmer needs funds to finance a project, the chapter thrift bank will loan him the money at the current rate of interest, secured by a note signed by the borrower and his father. Besides encouraging thrift and enabling the boy to save small sums it teaches business practice and procedures. In time when boys are asking for loans it will be necessary to elect a board of directors to approve the loans as well as to set up banking policies.

The thrift program of our chapter has been a splendid addition to chapter activities. We feel that a number of our members will have a substantial sum saved by the time they graduate and will carry the thrift practice thruout their lives.

Tune in on National F. F. A. Broadcast over N. B. C. Farm

The Duties of an F. F. A. Adviser

R. M. ADAMS, Critic Teacher, Corvallis, Oregon

THE responsibilities of an agricultural adviser are numerous and varied. He should assist in the development of the ideals and objectives of the F.F.A., prominent among which are the development of rural leadership, character training, and a high type of citizenship.

In order to do this he must be truly an adviser for the boys who do the work and carry on the F.F.A. activities. He should be in the background and not do the work himself.

If he is to be a successful adviser he must be accepted by the boys and must have their confidence and respect. To gain this he must be tactful, well informed, have a liking for boys, and be friendly and sympathetic yet firm when necessity arises. He must be able to prevent problems which might arise in the F.F.A. organization due to unwise action on the part of the boys. Such action is usually due to inexperience and can be rightly directed by a tactful adviser. The choice of the best boys for the F.F.A. executive offices is an example of an important action needing careful thought and advice. Expenditure of chapter funds, social affairs, and the annual chapter program of work are others.

The instructor should set the right example in his own character and efforts. He should not expect the boys to do something he will not do himself. For instance, he should memorize his own part of the F.F.A. ritual and initiation ceremony.

It is essential that the adviser be willing to sponsor a program of work for his F.F.A. chapter that will be considered worth-while by the boys and by his community. Nothing less than keystone honors, signifying an outstanding chapter in the state, should satisfy him. Such cannot be achieved without a willingness to devote much time and thought towards accomplishing the ends desired. The boys must be so sold on the worthwhileness of the F.F.A. program that they will be willing to participate in it.

An adviser can feel that he is achieving some degree of efficiency in this work when his F.F.A. chapter achieves its objectives thru the efforts of the boys themselves; when the individual boys come to him voluntarily to talk over chapter and individual problems; and when the term obedience is lost in the blending of a feeling of mutual interest, respect, and co-operation between himself and the boys.

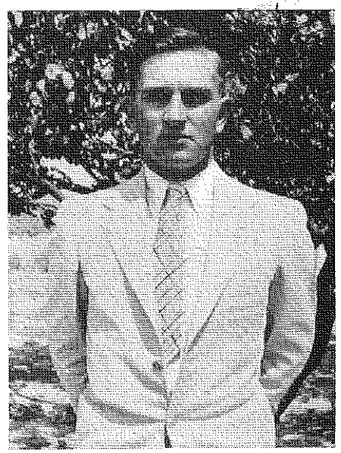
This last named is the most difficult of the three tests for an adviser to pass. It might be illustrated by an actual happening.

It was the middle of the harvest season in the hot summertime. All school restraint was off. An F.F.A. chapter meeting was called by the F.F.A. summer program committee and the president. It was to consist of a swim, a program around a campfire after dark, and finally hot dogs and marshmallows. The boys began to arrive half an hour before dark and immediately took to the water. Twenty-five boys, five dads, and the speaker of the evening came. As soon as it became difficult to see, the fire was started and at a word from the adviser the boys came from the water and older boys why he was not dressing. He said he wanted to swim more later. The adviser asked him what he thought would happen if some boy got in trouble out in the deep water after dark when he could not be seen. The answer was self-evident. The boy promptly changed his clothes and the few other stragglers with him. A lack of confidence and understanding in this instance might have spoiled everything. After dressing the boys assembled around the campfire. The meeting was opened and conducted by the F. F. A. president without any further action on the part of the adviser. It continued for three-quarters of an hour. Business was transacted and the speaker of the evening heard. There was no disturbance. They were all attention and interest. When it came time for refreshments some of the boys had toasting sticks already cut, the committee distributed hot dogs, marshmallows, and buns to the guests and boys as they lined up. Everyone was happy. The meeting adjourned and the boys started for home at 9:30. The adults present were very complimentary as to the boys' attitude, conduct, and the ability displayed. Such instances are high lights in the life of an adviser.

Orphan Boy Makes Master Farmer

A. J. BEERSCHWALE, Supervisor,
Apline, Texas

THE fact that Emmett Lehr was left an orphan at the age of 15 did not spell defeat for him. Renting equipment and land from his father's farm, Emmett has harvested four successful crops.



Emmett Lehr, Apline, Texas

When his teacher of agriculture stopped at his farm in June, he found Emmett walking around over a cotton field worrying about a few bunches of stray grass the plow had failed to eradicate. He told the teacher he was going to start right back over it with a plow and tractor. He started that afternoon.

This kind of persistence possibly explains why he got 21 bales of cotton from 60 acres in 1934 and a still better crop in 1933—two of the years that will be long remembered in West Texas as those of its worst droughts.

Starting with nothing, Emmett now owns his own equipment and has a cash balance that would be a credit to a seasoned farmer. He has completed two ture and holds the Lone Star Farmer Degree in the Texas Association of Future Farmers of America. He was made president of the local chapter of Future Farmers in San Angelo last spring and elected vice president of the Texas Association of Future Farmers of the State Convention held in Lubbock in July.

In his own community east of San Angelo, Emmett is recognized as a good farmer, and a trip to his place will leave no doubt that this opinion is well-founded.

West Virginia Future Farmers May Take Part in Farm Bureau

"TO ONE whose memory goes back a considerable span of years," says the editor of Prairie Farmer, "one of the most encouraging developments in agriculture is the increase in the number of capable farm leaders. Twenty-five years ago farmers with enough self-confidence and executive ability to step out successfully in community, state, or national affairs were few indeed.

"Perhaps most promising of all is the growth of leadership among the farm young people. One has only to attend a meeting of the 4-H Club or the Future Farmers to have his faith renewed in the future of rural civilization in America."

The West Virginia Farm Bureau, at its annual meeting in August, realizing that the future of agriculture is in the hands of the young leaders, amended its constitution so as to allow the West Virginia Future Farmers of America, as a group, to become members of the organization.

As amended, the constitution provides for individual F.F.A. members to become affiliated with the county, state, and national farm bureaus. Then at the annual meeting of the West Virginia Association of Future Farmers, which is held prior to the annual meeting of the West Virginia Farm Bureau, the aggregate of F.F.A. members in the state would entitle the organization, as a whole, to seat one official delegate for each 25 members affiliated with the county, state, and national farm bureaus at the annual meeting of the West Virginia Farm Bureau.

The granting of full membership and voting rights to this group means new and younger blood in the Farm Bureau. And with the present chaotic condition of agriculture threatening to engulf us all, new and firmer blood is badly needed.

Some time ago, an article concerning Future Farmer activities in West Virginia was published in the Farm News. The main point in the article was the fact that these boys are co-operating to a much greater extent than is any other group in the state.

The doctrine of co-operation that has been preached to the Farm Bureau and farmers of West Virginia has been heeded by only a small percentage of the 100,000 farmers in the state. With the F.F.A., however, every one of the 1,500 or more members has bought co-operatively, sold co-operatively, talked co-operatively, and eaten co-operatively.

If co-operation means so much to these F.F.A. boys certainly there is something to it. If these boys make a profit on their projects surely we are allowing opportunity to slip thru our fingers.

Youth challenges again!—West Vir-

Subscription Data by State

(Continued from page 114)

State	Number of Teachers 1935-36 (1)		Supscriptions November 1, 1936 (2)
	White	Colored	
New Jersey	30	1	32
New Mexico	36		55
New York	282		246
North Carolina	252	44	41
North Dakota	39		34
Ohio	239		279
Oklahoma	108	21	111
Oregon	44		31
Pennsylvania	185		174
Rhode Island	10		
South Carolina	161	95	139
South Dakota	60		45
Tennessee	154	22	168
Texas	446	130	245
Utah	49		32
Vermont	29		34
Virginia	144	34	179
Washington	80		70
West Virginia	71	3	54
Wisconsin	139		74
Wyoming	32		41
Hawaii	50		
Puerto Rico	57		
Alaska and United States Possessions	4		99
Foreign			12
Total	6,220	644	

1. Data furnished by Mr. J. A. Linke, November, 1936.

2. From Meredith's monthly report to the Business Manager, November, 1936.

Desirable Educational Ends Achieved Thru the F. F. A.

CHARLES L. PARK, JR., Teacher,
Thetford, Vermont

AS F.F.A. advisers, we teachers of vocational agriculture have a privilege in working with our students. While we should serve only in an advisory capacity and allow the members of the F.F.A. to carry on the work of the chapter, we can see to it that the chapter functions in a way most valuable to our pupils.

It seems to me that it is wise to give some thought to the seven cardinal points of education when planning the annual program; namely, health, wise use of leisure time, a command of the fundamental processes, development of character, worthy home membership, good citizenship, and vocational guidance.

Let us consider the problem of health. We should strive to encourage sanitation among our students in every possible way. Being neat in our own appearance at all times is a good example. Keeping our classroom and workshop in order will help, since a person who has clean surroundings learns to take similar care of himself. Our chapter fixes certain standards in regard to the appearance of its members at the meetings.

We should strive to enable each boy who is wasting his leisure time to make some worth-while use of it. Not all students care to have the same things thrust upon them, but very few will fail to respond to encouragement or advice, once a little guidance is given them. Extra time are to read beneficial books, to write articles for a boys' magazine, fix up his room at home, or engage in athletics. Most every boy has a hobby which can be developed in his leisure hours. Such hobbies as bee keeping, flower culture, and a development of musical abilities are a few worth mentioning.

A continued development of the fundamental processes results because of the practical nature of vocational agriculture. One may ask how this can be achieved thru chapter activities. The members of my chapter are very fond of shopwork. Their interest is encouraged, and a certain amount of time during the social hour of our meeting is set aside so that boys who wish to do so may use the shop and equipment. Thus the boys have the opportunity to make things appealing to them, and this results in an increase of the tool skills. During the Christmas season the boys made several types of toys for distribution to needy children in the community who otherwise might have had an empty stocking.

The building of character is vitally important. Many students in our high schools come from homes with extremely poor environments for youth. Still it is surprising what improvement can be made with these same boys thru the exercise of patience, reasoning, and hard work on the part of the teacher. Here again membership in the F.F.A. aids the boys. A spirit of co-operation exists, and each boy feels that every other member is a friend and helper. This reflects to advantage on the characters. A respect is learned for the flag, and the salute is given with all sincerity. It is well to have the pastor in occasionally to lead the group in prayer or to offer a blessing before a luncheon.

If boys can be brought to realize the sacrifice which parents make to keep them in school, a better home relationship often results. A closer feeling between parent and son may be developed thru F.F.A. luncheons, social hours, and lectures to which parents are invited. This tends to increase worthy home membership.

Building into a boy's character honor, love, friendliness, and courage will result in what we are striving to attain; namely, good citizenship.

Finally, vocational guidance within the school and without will serve to do much in developing a boy into the kind of man the country is going to need, a real future farmer.

The F.F.A. at Thetford Academy is a young chapter. We follow the requirements for membership set forth in the manual. No boy needs to be urged to become a member. Rather, a feeling prevails that it is an honor to be selected for membership.

Meetings are held at least once each month, and whenever possible we like to have them every other week. The full order of business is followed. The officers are not the only ones who take part in the meeting in the transaction of business. When degree work is carried on it is done in an orderly, businesslike manner.

Following the business meeting a recreational period is provided. Our classroom is located above the workshop and is large enough for chapter meetings. There is a radio for listening [illegible] ational periods. The long class tables serve nicely for ping-pong tournaments. Downstairs in the workshop after the business meeting the boys have an opportunity to learn the rudiments of boxing, wrestling, or they can use the shop equipment. Upon other occasions our chapter plans hikes, corn and wiener roasts, and radio dances.

A chapter project is promoted each year. Last year we operated two hotbeds. This year the boys want to add a project in incubation and brooding.

Quite often individuals secure work outside of school hours in the community. We maintain a labor bureau. The person in charge keeps in mind the work which needs to be done in the town and attempts to secure it for chapter members. Each boy is selected according to his ability, honor, and care in performing a job. Gradually most of the boys who are desirous of finding work realize what is expected and improve themselves to meet the standards set.

Last fall the group established here a day which was termed F.F.A. Sunday. The congregation doubled in number over its regular attendance. A large percentage of the boys came to church accompanied by parents and friends. The pastor delivered an excellent sermon appealing to young farm people. Several of the boys assisted by ushering, taking the collection, and singing in the choir.

Our chapter belongs to the Farm Bureau and makes use of it thru the county agent and farm bureau publications.

Boys are urged to visit one another's projects, both as individuals and as a group. Thus, a sense of pride in one's work results, and more care is given to a project, which in turn leads to greater profits.

I trust that I have made myself clear in presenting my idea of meeting educational ends with the F.F.A. In closing I might present a little poem, which I concocted in an idle moment and which is called "The F.F.A." To any person who may be unacquainted with F.F.A. work, it briefly presents a picture of the chapter activities.

The F.F.A., what does it mean
To all of you who have not seen
The meetings held week after week
By boys who do so eagerly seek
To do their work in such a way
That they may carry on some day?

American farm boys 100,000 strong,
Taking vocational agriculture all the year long,
Seeking to build in an earnest way
Long-time projects whate'er they may,
Planning now that they shall stand
As ideal future farmers of our land.

The Future Farmers of America now, you see,
Have a right to be recognized by you and by me.
Chapters exist in forty-seven states,
And Hawaii and Puerto Rico are within the gates.
Now pause a moment to grasp the truth,