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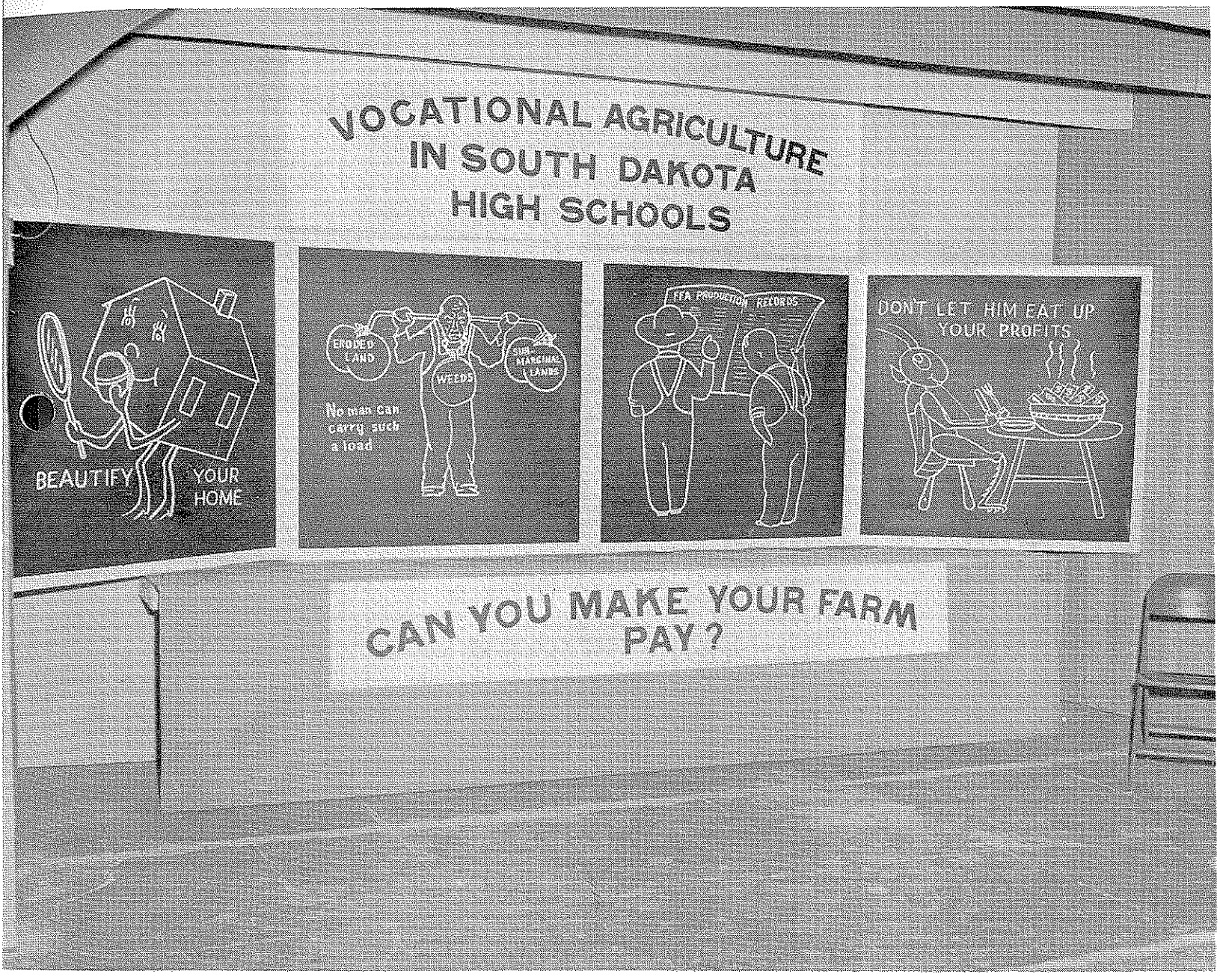

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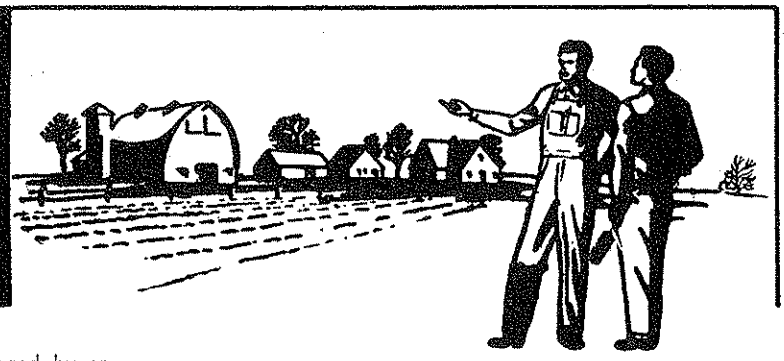
Featuring— Evaluating the Vocational Agriculture Program

The Agricultural Education Magazine



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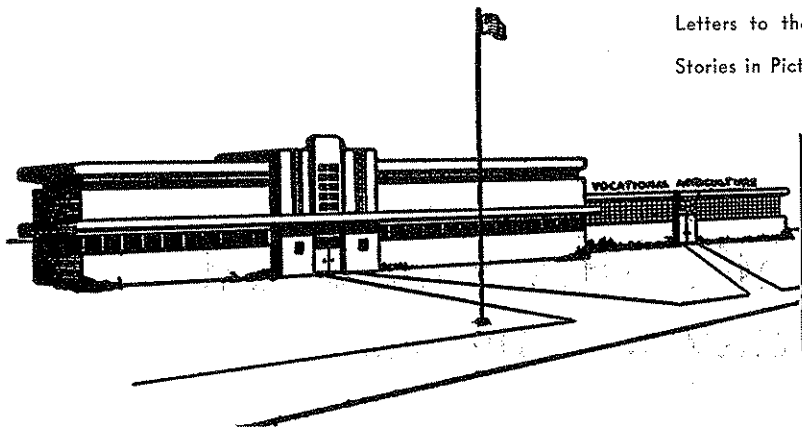
Contents



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Editorials

Evaluation

GERALD B. JAMES, Teacher Education,
North Carolina State College

Evaluation cuts across all facets of programs of agricultural education. Failure to evaluate any particular facet and replan or change accordingly may lead to ineffective educational programs in agriculture. Methods of implementing programs and results of the programs likely receive most of our evaluative energies. In order that other facets not be neglected, major attention here will be devoted to evaluation of objectives and policies.

OBJECTIVES — Considerable attention has been focused upon objectives of agricultural education during the past few years. Some have chosen to support objectives which deal with *establishment in farming*. Others have contended that vocational agriculture need not be and should not be confined to vocational *farming*. They believe that to be concerned only with establishment in farming is unrealistic since it is adapted to only about 12 per cent of the population and since there are now more people engaged in agricultural occupations, exclusive of farming, than are engaged in farming. Still others have held that the 88 per cent of the entire population who are not in farming are entitled to some type of agricultural education. The latter two groups often imply that we may in reality be fooling ourselves when we imply that our time, energies, and efforts can be most productive when devoted entirely to farmers and prospective farmers, as if farmers were completely independent from all other facets of our complex society.

It is true that there is much yet to be accomplished with farmers, *per se*, but how productive can our efforts be with farmers if agricultural education is denied others in agricultural occupations and many more who are not and cannot be separated from their dependence upon agriculture? The public, even those closely connected with programs of agricultural education, apparently realize a need for broadened programs of agricultural education. Only 15.4 per cent of those adult farmers, young farmers, high school boys enrolled in vocational agriculture, teachers of vocational agriculture, principals, and superintendents interviewed in a recent Southern Regional study of "What Constitutes an Effective Program of Vocational Agriculture in a Community" felt that the controlling purpose of vocational education in agriculture should be interpreted as narrowly as "to train for useful employment and proficiency in farming." We have long advocated basing educational programs in agriculture upon the educational needs of the *people*. Do we really

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From the Editor's Desk . . .

With your own rope . . . . . .

"The per cent of vocational agriculture students who enter farming . . . . !" I doubt if there has ever been a program in education more often or more thoroughly hanged by its own data. The fact that we have supplied the data is not wrong. What is wrong is that this is apparently the only data we have supplied in a sufficiently simple and dramatic manner to catch the public fancy. We have compounded our error by failing to provide leadership for proper interpretation of this data. It is time we provided the public with figures which would support our program and which also would be as simple and dramatic as "the per cent of boys entering farming."

We might start out with the enrollments in our adult and young farmer courses. In one community with which I am familiar, nearly 140 adults are enrolled in agriculture courses offered by the vocational agriculture teachers. This number is equal to nearly one-third of the number of farmers in the school district. What a dramatic and easily remembered headline that "30%" figure would make!

Another kind of data which could be quite useful and easily dramatized is that concerning the amount of business carried on by farmers in the local town. In one community, the business data gathered was impressive enough to cause the Chamber of Commerce to defend and support publicly the vocational agriculture program.

An interesting and usually surprising item of information is the number of people living in town who are landowners. Recognition of this fact should help emphasize that farmer prosperity is important to the townspeople.

How many persons in your school area are engaged in occupations related to farming in some way? Unless commonly accepted national estimates are wrong, the number of persons engaged in agricultural occupations in your community would provide strong evidence of the importance of farming to the general public.

Data regarding the source of school tax support often provide a vivid reminder to the general public that the cost of a strong vocational agriculture program is, after all, not a very heavy burden. The farm property in one Illinois community provides about 87% of the total school tax. Exclusive of building cost, less than $5,000 of over $200,000 in taxes assessed on farm property annually goes to pay for the vocational agriculture program. Even recognizing that farm families benefit from the total school program doesn't alter the

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Teachers Evaluate Their Pre-Service Preparation*

F. T. McQUEEN, Teacher Education, Tuskegee Institute

F. T. McQueen

WITHIN the framework of national democracy, education is central; within education, the teacher is central. Changes occurring in our complex society today are bringing about changes in our total educational structure. The technological advances in agriculture demand a more competent individual in the teaching of vocational agriculture. If the existing educational programs designed for training teachers is to meet some of the demands of society, these changes need to be carefully evaluated in terms of conditions which are essential for quality teaching. Teacher training institutions desire to provide instructional programs that will stimulate and guide their student teachers in activities that lead to competency and effective performance. The quality of teaching done by experienced teachers of vocational agriculture on the job depends to a large extent upon the professional competences received at the teacher training institutions.

Teacher educators, preparing teachers of vocational agriculture, are aware and ever alert to improved existing training programs. It is imperative that before improvement can be made, there must be some evaluation of existing programs to ascertain strengths and weaknesses of the professional area. The preparation of teachers of vocational agriculture is one of the essential programs of teacher education at Tuskegee Institute. Those teachers who had been prepared under the program and were teaching at the time of the study have evaluated the professional curriculum.

Course Appraisal

In order to ascertain the helpfulness of professional courses taken on an undergraduate level, an evaluation instrument was prepared and sent to 55 teachers who were graduates of Tuskegee Institute during the ten-year period 1946-55, inclusive, and who had taught at least one year and not more than ten years by July 1, 1956, in Alabama and five other Southeastern and border states.

Each teacher was sent an evaluation form to appraise the professional courses taken while pursuing the Bachelor's degree. The response from the questionnaires and from interviews conducted by the author resulted in 44 returns from the teachers.

Teachers rated the professional courses in terms of their effectiveness in preparing them to teach vocational agriculture. Their ratings were based on the rating scale: 5—superior, 4—good, 3—average, 2—fair, 1—poor, and 0—no information or evidence. Teachers' ratings of student teaching, guidance, and job placement were based on the following rating scale: 1—most adequate, 2—somewhat adequate, 3—inadequate, and 4—did not remember.

Following each course and related activity, spaces were provided for teachers to list other courses and suggestions for improving the pre-service professional curriculum and to indicate the strengths and weaknesses of the program. The ratings were grouped and analyzed according to the number of years of teaching and the number of hours of graduate work taken.

TABLE 1. SUMMARY OF RATINGS—PROFESSIONAL EDUCATION

COURSE	Number Rating	Scale of Rating 5	4	3	2	1	N	Average Rating
Introduction to Vocational and Secondary Education	44	20	20	3	0	1	0	4.31
Collegiate New Farmers of America	44	17	21	5	1	0	0	4.23
Special Problems of the Teacher of VocationalAgri.	44	17	21	5	1	0	0	4.22
Special Methods and Directed Teaching	44	18	20	4	0	1	1	4.15
Principles and Methods of Teaching Vocational Agri.	44	10	24	8	1	0	1	3.90

According to the teachers' appraisal of the professional area, the most valuable courses and areas were: Introduction to Vocational and Secondary Education, Special Problems of the Teacher of Vocational Agriculture, Special Methods and Directed Teaching, and Student Teaching. The course, Principles and Methods of Teaching Vocational Agriculture, was the least valuable in teacher preparation.

Teachers stated there were insufficient participatory experiences in such activities as teaching young and adult farmer classes prior to student teaching period; use of audio-visual aids in teaching; working with advisory committee members and similar groups; and developing skills in teaching farm mechanics.

The major strengths of the courses were indicated by teachers' ratings of individual competency items within courses, with a high of 4.72, well above "good" to 3.45, "average and better." They felt that the most valuable aspects of the courses were in such competency items as, (1) understanding of groups in organized instruction in vocational agriculture, all-day, young and adult farmer classes, (2) understanding legislation for agricultural education, (3) counseling by members of teacher education staff to assist in solving special problems, (4) giving students an opportunity to make self-evaluations of their own progress, (5) giving students an opportunity to make their difficulties known, (6) understanding the methods and procedures used in making surveys, collecting, compiling and analyzing data and arriving at problems of a local community, (7) interpreting problems for the purpose of setting up goals and objectives for a local program of work (8) understanding the basic purposes of the secondary school and the relationship of those purposes to teaching vocational agriculture.

Teachers felt that a majority of the professional courses designed to prepare teachers of vocational agriculture were above "average."

Student Teaching, Guidance and Job Placement Appraisal

Student teaching, counseling and job placement were felt to be most

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* Based on a Ph.D. Dissertation by the Author. "An Evaluation of the Pre-Service Professional Curriculum in Agricultural Education at Tuskegee Institute." Unpublished dissertation of the Ohio State University, 1957, 327 pp.

Teachers Evaluate - - -

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There were divided opinions among teachers as to the most desirable time of the year for doing student teaching.

TABLE 2. GENERAL EVALUATION BY TEACHERS OF THE HELPFULNESS OF STUDENT TEACHING, GUIDANCE, COUNSELING AND JOB PLACEMENT

COURSES AND ACTIVITY	*Number Rating*	*Scale of Rating*				*Average Rating*
		1	*2*	*3*	*4*	
Guidance, Counseling and Job Placement.....	44	32	8	4	0	1.36
Student Teaching.....	44	30	9	5	0	1.47

valuable in preparation for teaching vocational agriculture. Chief strengths of student teaching were indicated by teachers' ratings in such competency items as (1) New Farmers of America activities, (2) records and reports to local and state boards of education, (3) student teaching as being realistic to the profession, (4) helpfulness of supervising teachers, (5) opportunities in working with the total school program, and (6) orientation at the college prior to student teaching as to their role while doing student teaching.

A majority desired it during autumn and spring. A majority of the teachers preferred to have student teaching extended to 24 weeks, with 12 weeks being the absolute minimum. Eighty-two per cent recommended more emphasis be placed on supervision of student teaching program by the teacher education staff while students are in the field.

Conclusions

Even though these results are not conclusive in themselves for total revision of the pre-service professional curriculum, they do give some indices of improvements which might be available to administrators, teacher educators and others at Tuskegee Institute concerned in making adjustments in preparing teachers of vocational agriculture.

In the opinion of the author, teachers' criticisms of insufficient participatory experiences in teaching young and adult farmer classes prior to accepting employment, of recruiting and selecting all-day pupils and of working with advisory committees would imply the need for strengthening these areas at the pre-service level. It is suggested that more emphasis be placed on student experience in these areas through methods courses and student teaching to assist them in developing these competencies; also, it would be desirable to extend the participatory experiences of student teaching to six months prior to employment. The latter would tend to give a wider view and better understanding of the total responsibilities of a teacher of vocational agriculture throughout the year. □

Agricultural Adjustment and Resources for Vocational Agriculture

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RAYMOND R. BENEKE, Department of Economics, Iowa State College

Ted R. Robinson

FARM size is increasing and the number of farm operators declining as agriculture adjusts to a technological revolution. As a result, the pressure on farm-reared youth to find off-farm employment opportunities — a situation which has persisted for a half century —has grown in intensity. During periods of relative stability in farm numbers, the exodus of farm-reared youth was an adjustment to a birth rate which supplied more young men than were necessary to replace operators leaving farms because of retirement, financial failure or voluntary transfer to other work. Currently, the disparity between potential replacements and opportunities is being magnified by an unprecedented shrinking in the number of farming opportunities as the vacancies created by normal attrition are filled to a significant extent, not by new operators, but by established farmers expanding their operations.

Watching these developments, some observers of agricultural education have raised questions concerning the propriety of continuing public support of vocational agriculture at its present level. Discussions in this area, thus far, have generated more confusion than light because of a lack of information relating the capacity of the vocational agriculture program to train prospective farm operators to the need for replacements. We have attempted to establish bench marks for evaluating future adjustments in the size of the program. Attention has been focused only on the quantitative aspects of capacity and needs. Even then, to get hold of the problem, a number of restrictive assumptions were necessary. Although this study was limited to Iowa, we feel that the analytical procedure used can be of value in analyzing future training capacity and needs in other areas.

The number of vocational agriculture departments in the high schools of Iowa has increased fifty per cent since 1950, reaching a high of 303 in 1957 and falling back to 286 in 1958. During the same nine-year period, the number of farms in the state decreased five per cent.

Leaving aside matters of geographical distribution, what change from the 286 departments is indicated in view of the current climate of adjustment within agriculture? As a first step in analyzing this problem, we accepted the training of sufficient young men in vocational agriculture to meet the needs for replacement of operators each year as a reasonable goal. Because of the uncertainty and shifting among young people in their vocational goals, not all vocational agriculture graduates will enter farming, nor will all farming opportunities be absorbed by the graduates of a vocational agriculture program. We proceeded, however, on the premise that the vocationally trained who did not ultimately become farm operators would about equal the number without vocational agriculture who did enter farming. Furthermore, as a first approximation, we assumed that all departments would be of optimum size and so located that they could

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make maximum use of their capacity in training future farm operators.

We also assumed that a vocational agriculture department with an enrollment of 40 day-class students equally distributed throughout the 4 high school grades is considered to be optimum in a one-man department with adult and young farmer classes. This ideal enrollment figure may vary according to the number of vocational agriculture instructors employed and according to the emphasis placed upon young and adult farmer classes if conducted by the instructor. Our analysis has been made in terms of one-man departments, since there are only *five* departments in Iowa with more than one instructor.

Projection of Replacement Opportunities

Our projections are for the twenty-five year period, 1956 through 1980. An estimate of new farming opportunities each year requires assumptions in regard to (a) the rate of decrease in farm numbers and (b) the normal rate of withdrawal from farming. Estimates of decreases in farm numbers were derived from a projection on a constant percentage basis of the trend which prevailed from 1950 through 1956. In estimating new farming opportunities (openings), we assumed a normal annual withdrawal rate of 3% among existing operators (or a farming career averaging 33 years in duration). Some acceleration in this rate may arise out of pressure for farm enlargement. We assumed that established operators enlarging their operations would have first claim on the openings each year. Therefore, the number of farm units absorbed through consolidation were subtracted from the openings created through withdrawal to obtain the net number of opportunities available to beginners (Figure 1). We have treated the number of operators as equal to the number of farms in preparing these estimates. Opportunities as farm laborers have not been included because, while some vocational agriculture students may spend time as farm laborers, we have viewed the basic objective of the program as providing training for farm operatorship. It is evident that the downward adjustment in farm numbers cuts in heavily upon new farming opportunities. This is characteristic of any vocation or business during a period of adjustment. New opportunities abound in an expanding industry but dwindle sharply in a declining business.

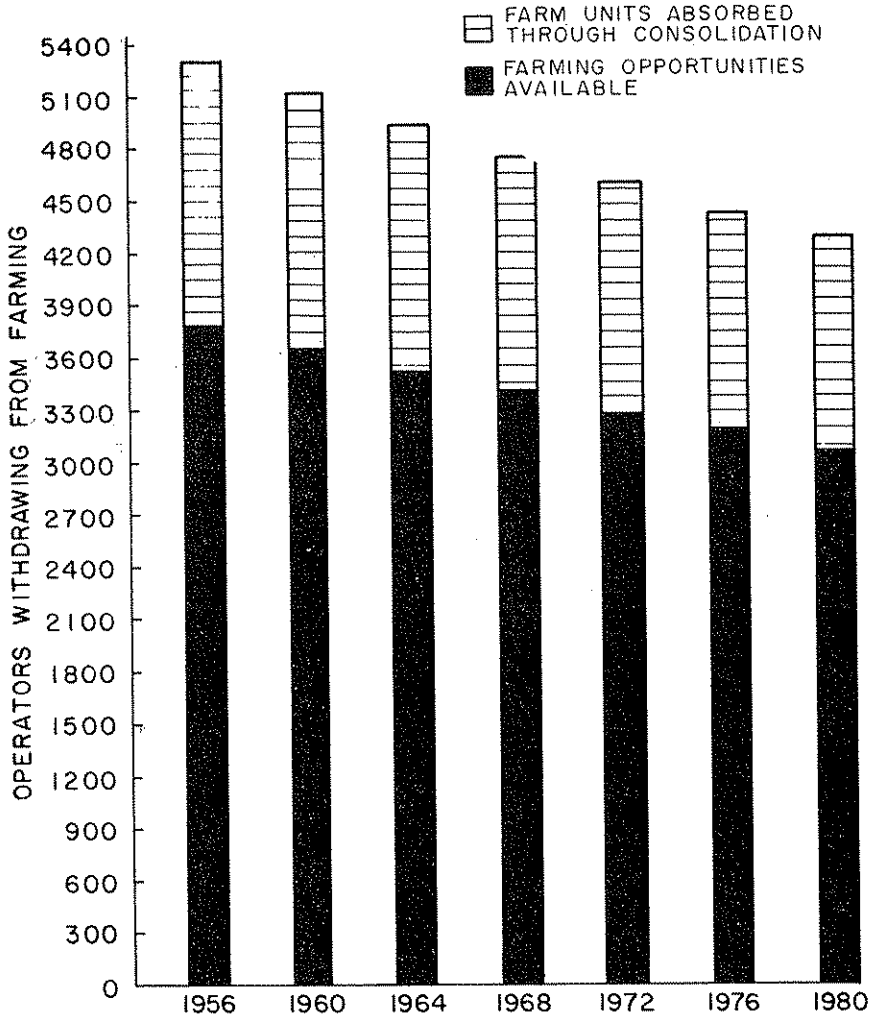

Fig. 1. Predicted total net number of farming opportunities available to beginning farm operators, Iowa, 1956 through 1980.

The projection in numbers of farms extends only to 1980 and indicates a decline from 175,143 in 1956 to 142,301 in 1980. We have limited the projection to a twenty-five year period, not because we expect the downward trend to stop by 1980, but to avoid the increased hazards that would attach to a longer run projection.

Number of Departments

How does the capacity of the present program compare with the anticipated need for graduates? If each department produced ten graduates per year who would eventually seek farming opportunities, the existing departments in the aggregate would fall short of training enough new operators (Table 1). The disparity would be greatest in the years immediately ahead and would decrease as the number of farming opportunities declines.

Distribution of Departments

The five designated farming areas of Iowa vary considerably in their capacity to provide the current and anticipated needs for vocational agriculture graduates. One would expect to find disparity in the allocation of departments among areas where the establishment and maintenance of departments is left largely to local initiative and where local control of public schools is a deeply rooted tradition, as is the case in Iowa. If mobility of prospective young farmers among areas was high, disparities in the distribution of departments would be of little significance. The percentage of young men, however, who farm in areas some distance from their home communities is small. Vocational agriculture departments appear to be reasonably well distributed among the five types of farming areas studied. Subject to the assumptions on which our estimates are based, only the Western Livestock and the Southern Pasture areas appear to have a surplus of departments (Table 1). Both are areas where farm size, although al-

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ready greater than in other areas, diverges most widely from economic optima.

While departments appear to be reasonably well located among economic areas, their spotty distribution within these areas clearly makes impossible a full use of their capacity to train future farm operators. For example, in 1957, 51 departments were concentrated in 8 counties, while 14 counties had only 12 departments among them. Viewed in another way, the counties where departments were clustered had 3.12 departments per 1,000 farms, as compared to 0.55 departments per 1,000 farms in the 14 counties with the fewest departments. This comparison represents the extremes and undoubtedly overstates the discrepancies in the distribution of departments because of the overlapping of school district boundaries and county lines. It is evident, however, that few farm boys are receiving vocational agriculture training in some counties while in others a high percentage apparently are participating in the program.

The need for a geographical redistribution of departments is closely related to the problem of too many small high schools. In 1957, Iowa had 745 school districts maintaining approved four-year high schools of which 303 offered vocational agriculture. To make vocational agriculture universally available to farm boys planning to farm within the existing pattern of school size would require, at a minimum, doubling the number of departments, since at least 600 high schools enroll students who are potential farmers. By contrast, if the existing number of departments were of optimum size and were ideally located, the present program would have the capacity to train 80% of the replacements needed in the immediate future and 95% of the number projected for 1980.

In the more immediate future some relocating of departments from smaller to larger high schools, particularly to those with a high percentage of farm boys, would result in the training of more future farm operators. But the long run solution lies in more large high schools in which to locate existing departments.

Training for Related Occupations

The discussion thus far has dealt only with vocational agriculture as a program for training prospective farm operators. A well developed program of rural education must concern itself with the 50% of the on-coming generation of rural high school boys who will not farm. Some will find opportunities in businesses closely related to agriculture. Although training for agricultural related vocations has never been an expressed objective of the vocational agriculture program, it is clear that a sizeable number of vocational agriculture graduates have found occupations of this type. Brushing aside questions of a legislative mandate for doing so, what is the potential contribution of vocational agriculture programs in training rural youth for related occupations if these programs were to treat this activity as an integral part of their function? In approaching this question, we again focused attention on adjustment in numbers rather than on emphasis in training content. Although information on farm-related businesses is inadequate, we have prepared estimates on the number of businesses and employees from a variety of sources. Several trade associations were helpful. In addition, the U. S. Census of Business contains data which were useful. The estimates presented (Table 2) are for 1954. Although no attempt has been made to project future employment needs, clearly, the number of employees in these businesses will not remain static. Some are subject to the same pressures for consolidation as are farm units. In general, however, we would expect these declines to be offset by growth resulting from an increasing dependence of farming on purchased supplies and services.

The type of training vocational agriculture departments are competent to

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TABLE 1. NUMBER AND CAPACITY OF VOCATIONAL AGRICULTURE DEPARTMENTS IN RELATION TO NEW FARMING OPPORTUNITIES BY ECONOMIC AREAS, IOWA

Area	*Number of departments per 1000 farms 1957-1958**	*Replacements needed*		*Number of departments needed†*		*Existing number of departments 1957-1958*	*Difference between needed and existing 1958*	*Difference between projected 1980 needs and 1957 existing*
		1958	*1980*	*1958*	*1980*			
Cash Grain	1.98	1346	1210	135	121	106	− 29	− 15
Western Livestock	2.07	375	284	38	28	44	+ 6	+ 16
Southern Pasture	1.46	357	248	36	25	38	+ 2	+ 13
Northeastern Dairy	1.74	790	721	79	72	53	− 26	− 19
Eastern Livestock	1.46	892	732	89	73	62	− 27	− 11
Total				377	319	303		

*Based upon the number of commercial farms at the end of 1957 as predicted from and defined in the 1954 U. S. Census of Agriculture.
†It has been assumed in these estimates that each department would provide ten prospective farm operators each year.

TABLE 2. OCCUPATIONAL OPPORTUNITIES IN BUSINESSES RELATED TO FARMING, U. S. BUSINESS CENSUS (IOWA), 1954

Kind	*Number of establishments*	*Total hired employees*	*Proprietors (Unincorp.)*	*Total personnel*
Retail				
Farm equipment dealers	1396	4687	1681	6368
Grain, feed, and supply stores	1385	3425	1234	4659
Assemblers of farm products	1121	5217	708	5925
Manufacturing				
Dairy products	499	6616	*	6616
Prepared animal feeds	142	3510	*	3510
Fertilizers	17	461	*	461
Total	4560	23,916	3623	27,539

* Information not available.

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provide would not be appropriate for many employees in farm-related businesses. Some jobs require accounting, clerical and stenographic skills; others demand highly technical training in the sciences. On the basis of information supplied by those familiar with the farm related businesses, we have concluded that vocational agriculture training would be appropriate for 50% of the employees. If we assume a retirement rate of 3% as we did for farm operators, these businesses provide opportunity for an additional 413 young men with training in vocational agriculture each year.

The Challenge to Vocational Agriculture

The adjustment in the organization of farm resources, now so much in evidence, has in no way lessened the challenge confronting vocational agriculture. Basically, the program should aim at a maximum contribution toward economic progress through reducing the resources required to produce America's food. This goal ultimately serves both the producer and consumer of food products. Future farming operations will be larger and more dependent upon technology, purchased inputs and product markets. More than ever young farmers will need training to cope with the increasingly complex management function.

To take full advantage of the benefits of improved technology, human effort and skill must not be left stranded in agriculture or augmented by a flow of young people into farming situations where they will be under-employed and unproductive. Thus, the guidance function of the vocational agriculture instructor will be critical in the years ahead. Clearly, the present environment dictates greater selectivity among would-be farmers both in terms of their personal capacity and their prospects for acquiring a quantity of land and capital adequate for a productive business. □

Evaluation - - -

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mean this, or do we mean for just a few people?

POLICIES—In that policies establish the framework within which programs of agricultural education shall operate, there appears to be a need for evaluating policies and policy-making.

Certainly there are problems which the public and administrators can solve, and certainly new policies must be sanctioned by both. Should not we, however, who are "close to" agricultural education, provide leadership in evaluating policies affecting agricultural education rather than zealously guarding existing policies as if with fear that someone might steal some of our rights and privileges? Where is our real concern? Where is our objectivity? Is our concern for preserving the past and maintaining the *status quo,* or is our concern for providing that agricultural education which is needed? These questions may be appropriate on the state and national levels as well as the local level.

Some studies indicate that local objectives and policies have already shifted to a broader base, but the extent to which they may change is subject to sanction by administrators and the public. Perhaps this is a healthy sign in that it indicates that vocational agriculture *is a local program* with flexibility enough to meet local needs. Could it be that local evaluation and changes are beginning to serve as a challenge to state and national objectives and policies? If so, we are not in a hopeless condition, but in a healthy one—one in which evaluation based upon local educational needs in agriculture leads toward replanning objectives, policies, and programs on the local level which collectively call for a re-evaluation of objectives and policies on higher levels. □

20-20 vision required for - - -

Evaluating by Sight

LELAND FOOTE, Vo-Ag Instructor,
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No doubt all vocational agriculture instructors have some sort of system by which they evaluate their own vocational agriculture programs. There are many systems by which teachers can arrive at fairly conclusive evaluations, but can one make a "sure-fire" evaluation without first being able to see the progress or advancement being made in the community which he serves? An evaluation of this sort is not easy to make since it would require that a teacher stay in one community for four years or more.

Just how can one measure the progress being made? In the day-school classes, this can be done by checking the cumulative records of the class members. Have the farming programs of the junior and senior students shown a progressive increase in size and scope through the years, or do a large percentage have only the cow or the two sows with which they started as freshmen? Are there a large number of continuation projects, both production and betterment? Do the underclassmen have a complete understanding of the vocational agriculture program? How about their parents—are they interested in, and informed about, what is being done by their sons? Has the school had its share of State and American Farmers? Are those State and American Farmers now fully established in farming and members of the out-of-school program?

Take a peek out the classroom window into the shop. Is it relatively full, or is it empty? Are the projects good, practical farm projects or are they simply jobs to pass the time of day?

A check to see what those who have graduated in vocational agriculture are doing will also serve as a means of evaluation. If a large number of these graduates are fully established in farming, one is reasonably safe in assuming that he is meeting the primary objective of vocational agriculture. On the other hand, if there are several vocational agriculture graduates in non-agricultural fields, the teacher has missed the primary aim and purpose of vocational agriculture.

If adult and young farmers put into actual practice those practices which have been discussed at the class meetings, the teacher has accomplished what he set out to do. As an example, suppose two meetings were devoted to the livestock disease leptospirosis and soon after these meetings a large number of class members in the community took blood tests and vaccinated for the disease. This would surely indicate that the meetings had been a success and resulted in the farming area of the community being improved; a need would have been met.

This method of evaluation is realistic and foolproof. The teacher can actually see whether those he serves are really learning by doing; whether they are putting into actual practice those things being taught in the vocational agriculture classroom. □

Dairy records show the way for - - -

Analysis As an Integral Part of Evaluation

R. L. HOEFT, Vo-Ag Instructor, Omro, Wisconsin

R. L. Hoeft

A COMMITTEE on agricultural education has stated that: "The major objectives of vocational education in agriculture are the objectives that must be attained to secure proficiency in farming on the part of those now engaged in farming and of prospective farmers and that *one* of the major objectives of vocational education in agriculture is to develop effective ability to produce farm commodities efficiently."

The school in which I teach is located in a farming area which is predominantly dairy. One of my first objectives, when I was engaged to teach vocational agriculture in this community, was to promote and encourage the use of practices which would lead to greater efficiency in dairy farming.

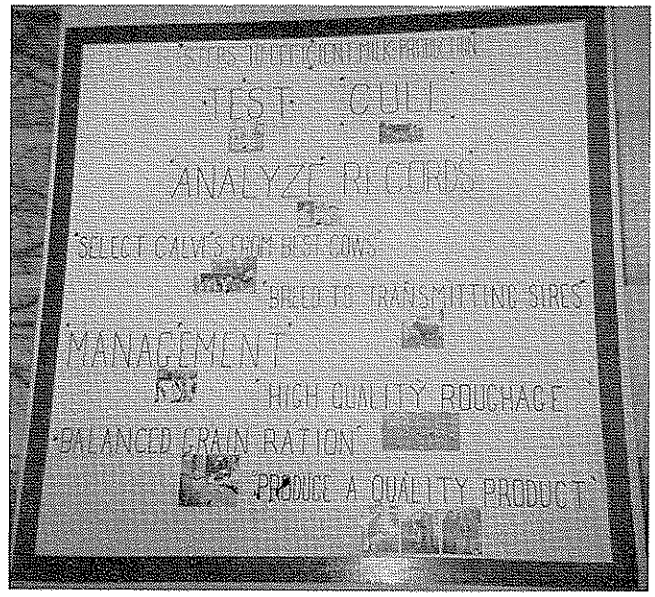
I am sure we all agree that testing and record keeping is the first step in the improvement of any dairy herd. Too often, however, nothing is done beyond that first step—the testing and record stage.

There is a wealth of material which can be gleaned from a well kept, accurate, complete set of dairy records.

Dairy records can be useful in discovering the low producer; in discovering the brood cows; in the selection of replacements; in proving sires; and in developing a sound feeding program. It is through the analysis of these records that we can do an effective and efficient job in dairy production.

A cow analysis rating sheet, worked out by a vocational agricultural instructor while serving on the advisory board of the Wisconsin Junior Dairymen's Association, can be used very effectively in the analysis program.

One way of judging the cow's performance is by her profit over feed cost.



Profit Over Feed Cost	*Rating*
$ 0.00 — 49.99	Very Poor
50.00 — 99.99	Poor
100.00 — 149.99	Fair
150.00 — 199.99	Good
200.00 — 249.99	Very Good
250.00 and up	Excellent

Another method of evaluating the cow is to determine the number of times the cow produces her own weight in milk. (It is generally agreed that a good dairy cow should produce ten times her own weight, in milk, during a lactation.)

Cow characteristics have a very important bearing on the final determination.

Cow Characteristics

Good Points

Easy milker
Good disposition
Long-lived
Calves easily
Good type
Consistent production
Ability to transmit good qualities

Poor Points

Hard milker
Mean disposition
Production drops rapidly after sixth month
Trouble calving
Poor dairy type
Record of mastitis
Problem breeder

The analysis is not finished with the completion of the analysis sheet, but with this information we are ready to make a decision on each cow. We can group the cows into three classes: Brood Cows; Average Cows; and Cull Cows. The brood cow is the animal with the good characteristics plus high production from which we can build a better herd; the Culls would be those individuals with low production and low profit over feed cost or they could be animals that had too many characteristics from the list of poor points.

This analysis can further point out the weaknesses which may exist in the overall herd feeding, breeding and management program.

Recently, in a study of our dairy herds, we discovered, as was expected, that the highest per cent of our cattle, on test, left the herd because of low production; however, something which was rather startling was the fact that 12.4 per cent of the animals which left the herd had an injured mammary system or mastitis. This analysis brought out the fact there is a definite need for a planned mastitis control program and also the fact that we have too many dairy barns with stalls inadequate for the size of the cow we are breeding today. □

Design of Cow Analysis Sheet

	Cow's Name, Barn Number, or Ear Tag Number	Profit over Feed Cost	Rating on Profit over Feed Cost	Weight of Cow	No. of Times Milk Production over Cow's Weight	Cow's Characteristics	Final Determination
1.							
2.							
3.							
4.							
5.							

With Your Own Rope - - -

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fact that the investment in the vocational agriculture program is small compared to possible benefits which might be obtained.

These few examples illustrate some of the possibilities for presenting a more complete and colorful picture of our program and its importance to the general public. We will always make the rope used to mold public opinion regarding our program. Whether the rope strengthens our program or hangs it depends on the material we put into it and how we use it. □

You produce your own - - -

Ammunition for Rebuttal

GLENN H. MASTERS, Vo-Ag Instructor, Chadron, Nebraska

Glenn H. Masters

How does your vocational agriculture department stack up with other departments in your school? How does your department stack up with other departments in your area or state? Are you satisfied with the results of your labor and the progress of your students in school and after graduation? Is your program under fire by critics who are well fortified with emotion but not with facts? Do you sometimes wonder if you are accomplishing anything worthwhile or if teaching is really worth the effort?

If you can't answer these questions with some degree of satisfaction, then its time to make a critical analysis of your department, to evaluate your work and ideals, to fortify your position in respect to the rest of the school staff, to gather ammunition in defense of the work you are trying to accomplish. If it hasn't happened before, be assured that in the very near future you will be asked to justify your existence. If you are doing the job at all and have been in your present department long enough to establish a trend, I think you would be amazed and thrilled, as I was, after making the evaluation I am about to discuss. My study covered only a five year period, but I would recommend a longer period in order to give a clearer picture. In this study I undertook to answer five main questions, namely: (A) What are our graduates doing?; (B) Why do boys drop out of vocational agriculture pre-maturely?; (C) Does the instruction meet the needs of the students?; (D) Is vocational agriculture worth the cost?; (E) What changes do we need to make in the future? I shall discuss each question separately.

(A) *What are our graduates doing?* This is always a pertinent question. I found that 80% of those who completed the four year course were engaged in agricultural pursuits, while only 50% of those who took less than four years of agriculture were engaged in that work. I also found there were about as many boys taking less than four years of agriculture as there were who completed the four year course. This is too great a loss, I believe, and brings up our next question; but first, it might be well to ask the directors of other school departments or activities how many of their students turned professional in the last five years before we become too critical of vocational agriculture. The "professional" analogy is not too unreasonable when you consider the adversity that one must undergo in order to become established in a farm business.

(B) *Why do boys leave agriculture pre-maturely?* About 60% of those leaving agriculture also dropped out of our school for one reason or another. About 30% did not complete four years of agriculture because of insufficient opportunity to expand farming programs or to advance normally toward establishment in farming. About 10% dropped for lack of interest, had succumbed to brainwashing from various and sundry sources, or had developed a fear of wearing the "farmer" label, etc.

(C) *Did the instruction meet the needs of the students?* It's difficult to get a clear answer to this question. I think you could answer it affirmatively if you are conducting a balanced program. Do you emphasize somewhat equally all phases of classroom work, shop work, supervised farming, the FFA program, and your out-of-school classes? Do your all-day students get the idea they must excel in all phases in order to be an "A" student? If your teaching is overbalanced in one phase, then be assured that the needs of many of your students are being sacrificed. In your classwork, do you teach scientific material such as genetics, entomology, economics, engineering and cost accounting or are you content to rehash a lot of material that many of your better students know about as well as you do. If taught properly, agriculture is broad enough and deep enough that it can scarcely miss hitting the mark with most of your students. It will come closer to meeting the needs of students in general than many of the required courses offered presently in our schools.

(D) *Is vocational agriculture worth the cost?* This is where our critics can smother us if we're not careful. Enrollment generally is on the decline, while department operating costs remain high or increase, making the cost per pupil increase a great deal. In discussing this point with many people, I gleaned these ideas: The price of anything is never too high if we want it bad enough and can see its value, but it is always too high if we think we can get along without it. Public opinion and pressure still plays the chief role in deciding how school monies shall be spent regardless of the true educational value of the activity or course that is purchased. Look around your school and I'm sure you will have very little trouble finding a number of glaring examples that illustrate the point. Point out to your critics that a good education doesn't cost anything—it pays. You don't need to place very many boys with the earning power of most State Farmers to more than pay the cost of operating your entire department. The value to a community of these kind of graduates is scarcely measurable. Add up the school tax bill now being paid by the families from which your agricultural students come. Don't be surprised if it adds up to an amount three or more times the size of your department's annual budget. Don't let your critics swarm you under with this cost per pupil approach because the people being benefited are more than paying the cost, and every good boy you place in your community is seed planted for an abundant harvest in years to come.

(E) *What changes do we need to make in the future?* We aren't beginning to train enough farm operators for normal replacement in spite of the fact that our farm population is decreasing. This is true in my community as well as in yours. Too many people are farming our land without the benefit of vocational agriculture training. Present conditions demand that farmers be well trained and be more efficient, and this will continue, so the need for vocational agriculture is going to increase. This is a responsibility we dare not shirk. Furthermore, with 40 percent of all jobs being classified as agricultural, there exist countless jobs in related fields that require agricultural training. From this viewpoint we are doing the job now, even if 50 percent or less of our graduates return to the farm. Every person in our schools must be made aware of the opportunities in agriculture. We must try to interest all rural youth in

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A challenge for teacher education - - -

Blind Spot

A. J. PAULUS, Teacher Education, University of Tennessee

The recent unrest in our ranks, no doubt, has a just cause. Yet, what that cause is appears to be the real question. Until that is decided it will be difficult for any of us to rekindle the fire of faith in our calling and to do the kind of constructive planning which our area of responsibility demands.

Since the State of Ohio certified me to teach vocational agriculture back in the twenties, my work and associations has brought vocational education in agriculture to me from a good many different angles. After several years of teaching vocational agriculture, the completion of graduate study, teacher training work in agricultural education, teacher training work in general education in a Liberal Arts College, and then back to teacher training work in agricultural education with a special responsibility in the area of subject matter service, I am about ready to do some concluding.

On all sides we have evidence of changes in agriculture with increase in size of farm, and integration in agriculture most evident at the moment. That these changes have come, are here, and will continue to be with us, no one with eyes open can honestly question. As I look about for similar changes on the methods side of agricultural education, it is not nearly so easy to find. Either there has been less need for the revolutionary changes in method or else we in that field have been less alert to its possibilities.

Industry, with its rapid advances in precision instruments, specialization and large-scale production has made agriculture its latest addition to their ranks. Agriculture has been slow in its response largely due to individual attitudes and financial position of the many small operators. When it did respond the change came at a breathtaking rate. What this increased urge for efficiency and financial returns will do to the human side of agriculture is another point which one may well question, but the fact remains, the show is definitely on the road.

On the other hand, human nature is still much as it has been for centuries. Opportunities for individual contacts with new information, and the knowledge, skills and attitudes which are the normal outcome have been speeded up, but the basic concept of needs, drives, experiences and outcomes remain very much unchanged.

If these observations correctly reflect the changes in our subject matter and methods, I am led to conclude our troubles lie mainly in our failure to adjust in line with what is happening. For many years I have noticed an increasing hesitancy on the part of not a few teacher trainers, administrators and supervisors to become personally and thoroughly interested in the rapid advances in available teaching materials and to make it a definite part of their teaching of methods. This attitude which seems to lend itself quite well to the term "Blind Spot" is largely responsible for the intermittent and half-hearted subject matter service generally available to teachers on the firing line.

To the extent that the above observations are correct, the bottleneck holding up normal, enthusiastic, wholesome and balanced growth in vocational agriculture is our joint failure to appreciate the relative importance of the methods and subject matter sides of the program in the preparation and in-service training of teachers. What true educator would fault one for saying that methods without subject matter, and rather specific subject matter at that, is dead as Hector's pup when he knows good and well that the matter and the manner which are new to the learner is the only excuse for teaching? Once this is corrected, I can easily foresee an encouraging recharge of the old spirit which, with feet firmly on the ground, gave little heed to opposition and drew the admiration of friend and foe alike. How much longer will we slumber away under the pointed finger of "O Ye of little faith" and too late awaken to what might have been? □

The Role of the Area Supervisor

In the program of vocational agriculture

JESSE C. GREEN, Area Supervisor, Powhatan, Virginia

It has been said that the job of the area supervisor is to "inspect, instruct and inspire." He may not actually inspect, but certainly the area supervisor must apprise himself of the situation existing in a department of vocational agriculture before he can instruct and inspire. He must know the policies of the state department, the county superintendent, and the local school principal. It is the responsibility of the supervisor to coordinate these policies and assist in developing a happy working situation for the teacher.

There is no substitute for frequent visits to teachers by the area supervisor. Letters and phone calls may serve from an informational standpoint, but problem-solving can best take place during individual visits to the teachers. On some occasions the teachers are notified of the visit ahead of time while on others they are not. The relationship should be such that a visit by the area supervisor is always welcomed by the teacher.

Upon arrival, it is always well to pay a courtesy call to the superintendent and principal. This may be time consuming, but it is essential if all concerned are to cooperate in the execution of the department program. The exchange of ideas and knowledge of the desires of the local administrators will make for a more effective program. It is also an excellent idea to keep in mind the local program of work and past accomplishments.

Before recommendations are made to a teacher, a full day of observing class, shop, on-farm instruction and extra-curricular activities should be made. The good points can then be emphasized and the weak ones designated for improvement. A thorough discussion at the end of the teaching day will develop understanding concerning problems that need attention. A majority of teachers already know their strong and weak points, and a reminder from the supervisor will reassure him of his own convictions. If information and decisions are to have practical value, there must be mutual agreement.

At least once each year a full written report should be made to the teacher covering the total program, along with recommendations for adjustments which were discussed during the visit. A copy of this visitation report should be submitted to the superintendent, principal and state

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Ammunition for - - -

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staying somewhere in the field of agriculture. We must hold our agriculture departments in our schools and increase their number in order to give ample opportunity to those who would stay in the field of agriculture. We must oppose the idea of closing departments and the general discrediting of agriculture education so prevalent in many areas.

I challenge each of you to make a critical study of your department using these same criteria or some of your own. It will give you a new outlook and a new interest in your work to talk these problems over with former students and with other people in your community, and most of all it will give you ample ammunition for rebuttal to put our critics in their proper place. □

The Role of the - - -

(Continued from page 275)

supervisor, as well as to the teacher involved.

Supervision may also be effective through group conferences. In recent years the quarterly area conference has been established as the medium through which group problems are solved. Teachers look forward to getting together for a discussion period on current problems, dinner, and then an evening program. This type of conference helps solve problems common to the entire group and allows more time for consideration of specific problems during individual visits.

The area supervisor must serve as a coordinator for all the activities in his supervisory area. While too much emphasis may be placed upon certain types of contests, advance planning helps to conserve time and to see that they are used as a means to an end rather than being the end within themselves. Boys and teachers like contests. Supervisors must keep them on an educational basis if they are to serve the purpose for which intended.

Finally, the area supervisor must keep in mind the main purpose of vocational agriculture—to train boys for proficiency in farming and to improve the status of those already engaged in farming. □

How have you answered this question? - - -

What Is Farm Management?

J. H. HERBST*

Does a mixture of uncoordinated agricultural topics deserve to be called farm management? It has been called to the writer's attention that vocational agriculture teachers sometimes label as "farm management" any group of unrelated topics that are hard to fit into one of the subject matter fields of agriculture. This brings about a "shotgun" approach in teaching technique. Such an approach is not considered good teaching and may give the study of farm management a "black eye" as well, since the procedure disguises the true nature of this field of study.

Farm management instruction has been important and is becoming increasingly more so. The farmer of today must first of all be a good farm manager. Farm assets of a typical commercial cash-grain farm in the corn belt increased from $29,000 in 1940 to $95,000 in 1957. Even after adjusting for inflation one finds there has been an increase of 20 to 25 percent in the amount of physical assets with which one farmer works. More capital has been added and efficiency of labor has increased. In 1940, eleven persons were supported by the production of one farm worker; but in 1956, twenty-one persons were supported by that production. As increased amounts of capital are used relative to the amount of labor, the function of management becomes increasingly important and so do organized methods of instruction in this field of study.

What Farm Management Is

Farm management covers material on a rather broad basis but it is a well-developed, applied science and contains the central theme of increasing income in relation to costs. Farm management is concerned with *the organization and operation of a farm for the purpose of securing the maximum net returns consistent with family welfare, both in the long run and in short periods of time.* Consideration must be given to conservation in order for returns to be high in the long run, but the farming system must be profitable at the same time. The farmer must make a living while he is conserving his resources. In planning the organization and operation of the farm, farmer or farm manager must consider individual family objectives, such as education, travel, and community participation, since these items will affect the time and labor available for producing income.

Farm management is primarily *a decision-making process.* Many alternative courses of action are usually open to the farmer or professional farm manager. He must study the various possibilities, choose the ones most likely to be profitable, decide to take action, and accept the responsibility of his decisions. The tools of the farm manager are the land, labor, and capital which he combines with his management to work out the most profitable farming system consistent with family goals.

Returns from Good Farm Management

What are the returns to good farm management? A study of 240 central and northern Illinois farms showed that on similar soils the average farmer of the top 20 percent earned enough more than the average farmer of the lowest 20 percent to pay for his farm in fifteen to twenty years with the difference in earnings. The top farmer in five gives his family a good living and pays for his farm in twenty to thirty years, while a neighbor with a similar farm on equally good land may have trouble making ends meet or may even lose a farm he had inherited free from debt.

Studies of rotations on highly productive, level land in central Illinois under a grain farming system showed that the most profitable rotation, C-C-Sb-W(cl), produced about $15.00 per acre more annually over direct costs than the least profitable rotation studied, C-C-O-Cl. The difference in net income on a farm of 200 tillable acres would amount to $3,000.

The choice of a livestock system can also make much difference in income. Take, for example, a farmer who has 40 acres of legume-grass forage plus other roughage, feed grains, and 1,000 hours of labor which he can devote to livestock. Enough forage and labor are available for about 30 beef cows with the calves fed out or for about 80 purchased steer calves to gain 550 pounds each.

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* Vocational Agriculture Service and Agricultural Economics, University of Illinois.

What Is Farm - - -

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The first program would return an estimated $50 per cow and calf above direct costs and the second program about $35 per steer. Thus the beef cow program would produce an income above direct costs of about $1,500 ($50 × 30) as compared to $2,800 ($35 × 80) from the steer calf feeding program, a difference of $1,300 in annual net income.

Are profitable combinations of enterprises to be used on our farms? Are day to day decisions about farming jobs to be made with the view of income versus costs? The farmer who does not manage his business soundly has little chance for success. Much is said about the numbers of persons leaving farms. But what about those who stay? By what means can we equip these persons for the job of successfully managing their farms? We can do this job by helping our students obtain the management abilities needed to successfully organize and operate the farm business.

Areas and Principles of Farm Management

Making a plan of the organization of the farm business to serve as a guide over a period of years is called "farm planning." Farm planning is an important part of farm management. Steps in farm planning are as follows:

1. Take an inventory of farm resources. (Consider the land, labor, capital, and management available.)
2. Plan a sound land-use program, including profitable rotations adapted to the soil.
3. Decide on the field arrangement.
4. Select the crops to grow.
5. Estimate crop production.
6. Decide on the system of farming to follow and the volume of business needed.
7. Fit livestock to the farm.
8. Plan the soil fertility program—build-up and maintenance.
9. Plan to make efficient use of labor.
10. Fit the power and machinery to the farm.
11. Plan the farmstead organization, including the kinds and sizes of buildings needed.
12. Plan the marketing program.
13. Estimate annual costs and credit needs.

Besides decisions about the general plan of farm organization, farm management also includes many operational decisions. Such decisions are concerned with the details of putting the plan of organization into practice. Individual questions come up as: "How much fertilizer will it pay me to apply?" "How can I take advantage of one feed becoming relatively cheaper than another?" "What shifts can I make in my cropping system as certain crops become more profitable than others?" "What costs can I reduce without materially decreasing production?"

The preceding questions are based on farm management principles and consideration of these principles provides a basis for action that contributes to high earnings. The principles are applicable to both organizational and operational decisions. Some of the principles are illustrated in connection with the following questions:

1. What level of production should I strive for? Use resources to the point where the returns from the last unit are expected to just pay for the cost of that unit. For example, let us say that under a given set of conditions the first unit of fertilizer, costing $3.00, gives an increase of 10 bushels of corn. The second unit gives an increase of 8 bushels, the third an increase of 5 bushels, the fourth an increase of 3 bushels, and the fifth an increase of 2 bushels. At $1.50 per bushel of corn, it will pay to add the fourth unit of fertilizer, but no extra profit will be made by adding the fifth unit. At $1.00 per bushel, it will pay to add the third unit but no extra profit will be made by adding the fourth unit of fertilizer.
2. What resources and how much of each should I use? You can reduce costs if you can substitute a cheaper resource (in terms of total value) for a more expensive one, provided you can obtain the same value of production as before. In producing 100 pounds of pork, varying amounts of soybean meal and corn can be fed. It pays to feed somewhat more soybean meal relative to corn when soybean meal is relatively cheap than when it is high-priced. If one pound of soybean meal at 4½ cents replaces no more than 2 pounds of corn at 2 cents per pound to give the same production, it obviously does not pay to add more soybean meal. However, if soybean meal drops to 3½ cents per pound while corn remains the same price, it does pay to add more soybean meal in place of corn. The same could be said for other kinds of protein supplements.
3. What should I produce? With the same resources at your disposal, you may be able to make substitutions among the products you produce and get a higher income. For example, on one type of soil the rotation giving the highest value of production over a period of years may be one which has one-fourth of the land in a stand-over legume while on another soil the greatest value of production may come where there is only a catch crop legume. Finding the most profitable rotation includes studying the substitution of grain and hay production.
4. Where should I use my resources? Use resources in such a way that the marginal returns in all their uses are equal. For example, if the last bushel of corn fed to hogs gives a return of $1.40 and the last bushel fed to cattle gives a return of $1.20, profits can be increased by feeding more corn to hogs and less to cattle, if the farmer is unwilling to purchase corn. If corn can be purchased, it will pay to purchase it as long as the returns from the last bushel are above the cost of a bushel of corn. We assume here that all other resources remain the same and that only the amount of corn fed changes.

   Remember that every resource (land, labor, and capital) has a cost if the resource would bring a return in some other use. This cost is equal to the return in the most profitable alternative use. For example, the cost of labor that the beef enterprise would have to pay would be $1.25 per hour if the same labor would bring this return in another job.

Teachers of vocational agriculture may not be able to make direct use of all of the preceding principles but consideration of them should help in studying the relationship between costs and returns, which is the heart of farm management. Will a change in operations increase returns more than costs? Use of these principles should be a help in providing the answers.

The field of farm management in-

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struction also includes farm record-keeping. It is through the use and interpretation of accurate farm records that many farm management decisions can be made. Records should be kept with the objective of assisting the operator to make the most advantageous farm management decisions, as well as to enable him to make accurate tax records. Much can be taught in high school about record-keeping and this item has long been a part of farming programs. It is not the intention of the writer to slight this subject, but it is felt that some of the other items of farm management are more in need of definition for teachers at this time.

Related Fields

The field of farm credit, or perhaps the broader field of farm financial management, is closely related to farm management. The farmer or manager must be well acquainted with the capital needs of his farm business and with the money needed for family living. Careful planning of expenditures brings about good returns from money invested in the farm business and from expenditures for family living.

Farm marketing is somewhat related to farm management. The farmer needs to know the kinds, quality, and amounts of products the market wants, where to find the best market, when to sell, costs of storage, etc. Much of the marketing process is performed after the product leaves the farmer's hands, but an understanding of the process is nevertheless important to farmers, especially if they are associated with some type of marketing cooperative.

The purchasing aspects of farm marketing are difficult to separate from farm management. The farmer of today uses large quantities of purchased items in production, and decisions made in buying these items are also very important.

Other fields of agricultural economics such as farm prices, farm policy, taxation, rural sociology, farm law, and land economics are also somewhat related to the work of the farmer or farm manager as he draws from these fields in making his decisions.

It is hoped that this article will help teachers identify and organize the areas of farm management instruction in their communities in this era of a rapidly changing agriculture. There are changes in technology and changes in prices paid and received. Will it pay the farmer to adopt new practices requiring large capital outlays, or can he achieve the same production at less cost by present methods? What kind and how much of each resource should he use for greatest profit? Should he continue to produce the same products or can he profitably make changes along this line? Considering these questions in the light of farm management principles will help provide the answers to the farmer's immediate problems as well as to the longer run problems of farm business organization. If we're calling our instruction "farm management," let's use a systematic method of studying increasing income in relation to costs both for short-time decisions, as well as for achieving the most profitable farm business organization over a period of years! □

Evaluation might reveal that you, too, have - -

A Young Farmer Program

J. C. HOLLIS, Vo-Ag Instructor, Spring Garden, Alabama

In recent years teachers of vocational agriculture in Alabama have heard much about young farmer education. We were prone to think of young farmer education as something new and were hesitant to tackle a program of this nature due to a misunderstanding as to the nature of the program and fear of more work for the already overburdened vocational agriculture teacher.

In evaluating the state program in adult work, it is my opinion that young farmer education has been going on for a long time in vocational agriculture. It simply was not reported as such. To illustrate my point, I will use my own situation.

Sometime ago I was contacted by a representative from a rural-minded civic club concerning the possibilities of organizing in my school area. Realizing the potentialities of an organization of this nature, I accepted the challenge of getting the people of the Spring Garden Community together to hear the program explained. There was no doubt from the group as to the benefits that might be derived from the club, but the membership fees were so high that there was doubt among the members of the group whether or not to proceed. Sensing the situation and realizing the tendency of farm people to remain quiet in the presence of visitors, I suggested a decision not be made until the next meeting.

At the next regular meeting (as I had anticipated) the group stated that the dues were too high, but it was suggested that we go ahead and organize a club and call it the Spring Garden Sportsmans Club. A president, secretary, and treasurer were elected that night. The president appointed committees consisting of by-laws, project, recreational, and program. As teacher of vocational agriculture, I was elected chairman of the program committee. Membership dues were set at $2.00 per member, and to date we have 48 paid members. They are largely young men who fall in the age bracket normally given as the young farmer age range. I must point out that all the members are not farm boys, but nevertheless, they still contribute much to the organization.

At the next meeting, the project committee came up with the following suggestions as projects: (1) Restock the area with quail; (2) Have the streams tested and re-stocked with fish if necessary; (3) Start a little league ball club for the young boys in the community. The group, being interested in hunting, picked the first suggestion as a beginning point. Stocking the area with quail appealed to the members as the best project for the present. Preliminary work was done and the decision was made to start with the Coturnix Quail, a strain that is prolific even in domestic conditions, and yet when loose is a real game bird. Two incubators were secured, and one of the members agreed to take care of the hatching. The club started out with 100 eggs, and as the birds hatched they were kept in a central brooder until they could be moved safely. This year each member was given twenty-five birds, and as his birds produced eggs, they were brought in to the incubator for hatching. We plan to keep a laying flock constantly of 100 birds, and as eggs are hatched from the flock, small birds will be turned loose on land that is posted and controlled until they are established. The Coturnix Quail is

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A Young Farmer - - -

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very prolific, starting to lay in thirty-two days. The eggs hatch in seventeen days. Therefore, we should have some good hunting in a short time.

We have had many educational programs using such people as game wardens, forest rangers, and people from the conservation department as guest speakers. All of these agencies give full cooperation to a club of this nature. I might add here that any member caught breaking any game law is automatically suspended from the club, and it is also his duty to report any known violation.

What part do I play as a vocational agriculture teacher? I have had classes on the planting and maintenance of bi-color lespedeza border strips for feed and protection to the birds. I have helped the farmers obtain seed to be planted. Much has been learned about brooding and caring for birds, which is directly related to the production of baby chicks. Being chairman of the program committee, I am at liberty to schedule any program I see fit and at the same time reap the benefits of the quail program as a means of creating interest and getting people to attend.

All committees are functioning properly. About twice each year the recreational committee arranges a special meeting which is centered around a delicious meal and recreation for all.

Just because we started with quail doesn't mean that we will continue our projects strictly in sports. I hope to divert the group into other worthwhile projects and at the same time hold the interest created in the beginning.

It had never occurred to me that this type of program was really young farmer education until I had the course in Young Farmer Education at API last summer. I am sure that many more good young farmer programs are carried on but not reported. Maybe each of us should re-evaluate our programs and see what there is good about them—see if there is something worth telling others about! □

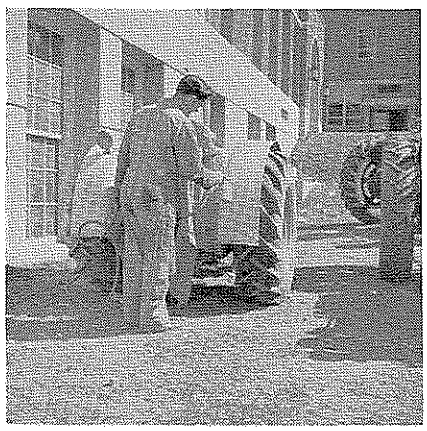
The Place of Farm Mechanics In Farming Programs

How does farm mechanics fit into the farming program? How much emphasis should be placed on farm mechanics?

A. E. WEINER, Vo-Ag Instructor, West Bend, Wisconsin

I think the philosophy of the agriculture teacher and the community toward farm mechanics will determine how it fits into the farming program and the extent to which it should be emphasized in the local vocational agriculture program.

An analysis of farming in Wisconsin and similar states shows that the investment in farm machinery and equipment comprises more than half of the total investment in personal property. A further analysis shows that the rate of depreciation for farm machinery and equipment is much higher than all other personal property, and that the cost of maintenance is much higher than for real estate and other capital investments on the farm.

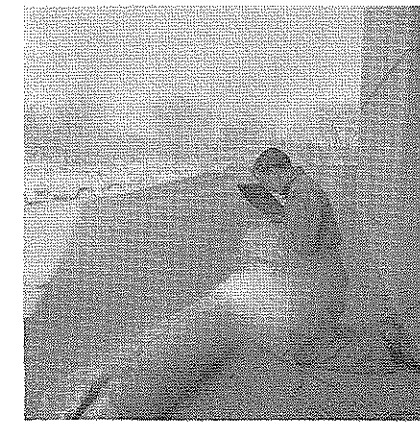


Painting farm tractor after a complete overhaul. Done in the Agriculture Shop. (West Bend, Wis.)

We have justifiably emphasized the importance of crop production, soil conservation, farm marketing, and livestock production with no intent of overlooking the importance of farm mechanics. Perhaps the answer to the above problem is that we as ag teachers lack the training and experience necessary to carry out a good practical farm mechanics program. Work shops and in service training in farm mechanics and a broadening of the farm mechanics program in teacher training institutions all will help to equip the teacher to do a better job of teaching farm mechanics.

To me, farm mechanics is just as much a part of the farming program as raising good livestock, dairy herd improvement, soil conservation and all the other things we teach in our program.

When we make a farm survey as to the number of livestock, acres of crops, crop yields and butterfat per cow, we should also include the kinds of farm machines and the costs of operation per acre, per farm, per year. We should analyze the machine cost per bushel and per ton in the same way we analyze the cost of producing a bushel of grain or a pound of butterfat.



Making hog feeder from discarded range boiler. (West Bend, Wis.)

In surveys that I have conducted, I found many a small farm far overinvested in farm machinery. I also found, in many cases, a lack of knowledge in the operation, care and repair of farm machinery. This opens up an opportunity to further study the place of farm mechanics in the farming program.

Let us consider first what we mean when we talk about farm mechanics. I believe we should not only consider operation, care and repair of farm machines, but the whole mechanics program on the farm. Building of chopper boxes, self-unloading wagons, hog feeders, portable hog houses, poultry houses, bunk feeders, building repair, electrical wiring and plumbing are only a few of the things that come under the scope of farm mechanics. We are constantly thinking of ways to reduce labor and costs, and many times in our analysis of costs of production, we find that machinery is the major part of our entire cost.

I think we can accuse ourselves of developing a farming program that

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The Place of - - -

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centers around the activities that lend themselves to be taken to the fair or exhibited at state and national shows. The publicity we get surely helps our program in the local community. But we must evaluate our program from time to time to determine if we are doing the kind of job that will help agriculture in our communities or if it is a program that rates recognition because of the outstanding work of one or two individuals.

To develop interest in farm mechanics is relatively easy. All farms represented in the agriculture program have machinery and need different types of equipment depending on the nature of the farming operation. The fact that all farms have tractors, combines, and similar machines sets up a point of common interest among the students. It also provides an opportunity for the teacher to give instruction and training that can be used by the student to do a job the value of which can be measured in dollars and cents. Many people measure the value of a program in monetary terms; farm machinery repair and building of equipment can be measured in that way.

Tractor overhaul in 1951 comes back for repaint job. Seven years later, still in good mechanical order. (West Bend, Wis.)

If we will approach instruction in farm mechanics as a means of implanting knowledge that can help cut the cost of production of the farm, we are doing the same kind of job as if we were trying to increase herd production or develop better livestock.

Activities like making hog troughs from old discarded range boilers, cleaning and painting tractors as illustrated in the pictures, surely help cut costs in the farming operation and are definitely a part of the farming program.

We can develop a farm mechanics course that will become a major part of our farming programs if we will:

1. Train ourselves to meet the situation.
2. Expect the students in the classes to develop an attitude of perfectionism.
3. Publicize the program in the local community.
4. Make surveys of the effectiveness of our teaching.
5. Gain the cooperation of local machine and equipment dealers.
6. Have a well equipped and adequate size shop in which to work. □

Professional Growth Is an Active Process

HAROLD M. BYRAM, Teacher Education, Michigan State University

Harold M. Byram

OF ALL teachers in the public schools, there is probably none who has been provided with more ways of continuing professional growth than the teacher of agriculture. The colleges of agriculture produce a continuing flow of bulletins and releases dealing with the subject matter of agriculture. They provide speakers or resource persons at meetings of teachers organized to bring them up to date. They provide credit courses in agriculture taught in the areas of the state where teachers are most numerous. Departments of agricultural education at the universities provide individual and group help for beginning teachers; and professional meetings, instructional aids, and credit courses dealing with professional problems at almost any place and time that teachers can meet. State departments of agricultural education provide many visits to teachers, teacher conferences, and aids for the organization of programs and the improvement of instruction. With all these sources delivering a veritable flood of potential assistance, it would be easy for a teacher to become a passive participant in these activities and a recipient of materials and information rather than to become an active agent cutting new paths, creatively devising better approaches to teaching, and asking for—yes, insisting on—the kind of help that would fit in with his aims for professional growth.

Modern Programs Present Many New Needs

If we are alert, we can readily see that the whole panorama that provides the setting for local programs of agricultural education is rapidly changing. Traditional—and what some have thought to be well established—philosophies of agricultural education are being challenged. We are having to re-think the meaning of vocational education in agriculture, and who are the clientele to be served by it. We are having to decide how scientific to make our teaching, bearing in mind new technological developments and renewed emphasis everywhere on teaching of science. In teacher education, we have taken a new look at curricula to determine if sufficient provision is being made for basic information in science needed for understanding new developments in agriculture.

We are witnessing a resurgence of emphasis on guidance, partly stimulated by recent Federal legislation providing substantial grants of money for development. What does this mean for agricultural education? Will we turn over to guidance specialists much of what we have been doing for years in this phase of education, or will we seize upon this opportunity to improve our own guidance activities? A head state supervisor of many years' experience was recently asked if he would name the teachers of agriculture in his state who were doing outstanding work in guidance with their students. His answer was that all successful teachers of vocational agriculture were doing a good job in guidance. While we would agree in general with this basic premise, this writer would not subscribe to the school of thought that education and guidance are synonymous. We have much to learn and apply of what has been found to be good practice in helping individuals to make good educational and vocational plans and to solve personal problems. We still have quite a way to go in the use of better techniques of obtaining, recording, and interpreting information about students, about occupations, and about opportunities

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Professional Growth

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for placement and establishment in the occupation. Research is going forward on the study of agricultural occupations, the improvement of guidance services, and methods of occupational study and analysis.

Many developments are taking place in vocational education in fields outside of agriculture. New types of programs and improvements in procedures are being developed. What could be learned from a study of these developments? What new programs might be developed to meet new occupational training needs that would cut across traditional—and sometimes arbitrary—lines dividing the so-called fields of vocational education?

New scientific developments in agricultural production crowd into the picture: tranquilizers, antibiotics, and hormones; hybrid varieties, cross-breeding, and artificial insemination; new sprays and dusts; and application of electronics to mechanical operations; to name only a few. Can the old procedures of teaching be used effectively in teaching an understanding and use of these and others?

Those who are expert in the field of communications have been developing or calling attention to better ways of securing the adoption of approved practices. They are crystallizing effective practices in group processes, in two-way communication; and in preparation and presentation of written, visual, and auditory messages to individuals and groups. These, and many other developments challenge the modern educator in agriculture. How active should he be in giving direction to his own professional development in these areas?

Graduate Work and In-Service Education

If professional growth is to be an active process, the implication is that teachers of agriculture should be vocal in making their needs and wants known. This will mean a large proportion of professional time spent as an individual, and in cooperation with other teachers, in exploring these needs to come up with specific requests for assistance. Graduate courses should be selected and planned on the basis of known teacher desires based on this careful analysis of needs, not on the convenience or special interests of the professor giving the course. If a course in forestry, photography, insect control, farm machinery, guidance, or program planning is needed it should be requested. Teachers should come to the in-service graduate courses in which they enroll with definite, specific problems on which to work. This is not to make the professor happy, although those who have taught in-service courses would be thrilled if they found a class all of whose members did have several burning questions, issues, and projects on which they want to work. The point is that this is where growth on the part of the individual starts. Of course, it isn't necessary to enroll in a graduate, in-service course to work on a problem. The writer has been greatly impressed, on visiting teachers who are growing professionally, to find that they frequently have undertaken individual studies of which he had previously been unaware. Examples are studies of use of time; follow-up studies of graduates; surveys of off-farm opportunities in agriculture; surveys of problems of out-of-school young farmers; surveys of a farm enterprise in the area; demonstration and experimental plots relating to fertilization or varieties of crops; and many others.

The Active Process Exemplified

About a year ago, the writer was visited in his office by a group of teachers from an area of the state some distance from the campus. These men had had from three to ten years experience, and most of them were successful in it. They said; "We recall that when we were first-year teachers our in-service program provided for individual work on some problem. We all chose problems, but we were so new at the work we now see that some of these were not the most important ones. Now, however, we have quite a number of things—somewhat unrelated to each other, we will grant—on which we would like to work with some assistance from your staff." That fall these men and a few others were enrolled in a problems credit course. They were visited by a staff member and met as a group three times during the year. Each one worked on a problem which he had hoped for some time to be able to work at rather systematically. A variety of resources was utilized in working on these problems. The results were very gratifying.

Instead of waiting for a visit from the state supervisor or teacher trainer to see what he has to offer or what suggestions he has to make regarding what he sees—which is bound to be quite limited at best—why not request a visit? Why not, if other teachers in the county or district have a common problem, request an in-service meeting to deal with it.

Bulletins are written at agricultural colleges partly on the judgment and personal interests of the staff members who write them and partly in response to direct queries from farmers. A local record of the questions asked of teachers by farmers and their sons in several communities might reveal a desire for materials not available and the need for which had hitherto been unknown to technical specialists in agriculture. These bulletin writers usually welcome assistance from the "grass roots" to determine what to produce. The same could be said about preparation of instructional materials.

Other Ways of Activating Professional Growth

There is always the danger that the teaching of agriculture might become provincial, that self-sufficiency within a state could be over-emphasized. To be sure, many problems within a state are unique. Some types of programs and methods of course organization also may be somewhat unique to a state. Nonetheless, teachers who have gone to other states and have visited teachers there have been stimulated, enlightened, and helped professionally. Those who have been privileged to attend the national meetings of NVATA, where they have rubbed shoulders with teachers from all over the country, would attest to this fact.

The writer recently was privileged to teach a graduate course in the summer session at an institution where teachers from many states come to study. He was curious to know why these teachers, many of whom had good graduate programs in their own states, had come some distance to study. He discovered that the fact that the trip could be combined with a vacation was not the only factor or the most important factor. Most of them felt it would do them good to meet and discuss professional problems with teachers from other states. Some of them already had Masters degrees and were not taking work toward any other degree.

Another way of promoting professional growth is through taking a foreign assignment with the International Cooperation Administration or other foreign aid program. There is no experience that will cause a person to re-think his whole philosophy of education, his methods of dealing with

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people, and the values he places on subject matter and methods more than this.

In recent years there have been published several books for high school students of agriculture written by teachers of vocational agriculture. The number of articles written by teachers for this magazine and others related to educational work in agriculture has been increasing. This is a very healthy indication. We are getting a down-to-earth approach to some aspects of subject matter and to many professional activities of teachers. But what is perhaps more important is what this writing does for the teacher who engages in it. This forces the teacher to become clear in his thinking and lucid in his communication. While not many will be able to write books, more could grow professionally through writing of articles and bulletins.

Another way of activating professional growth is through the acceptance of student teachers in agriculture. This is not because one learns new or better methods or new technical agriculture from them, although this could and sometimes does happen. It starts the active process because the teacher must examine what he is doing and explain the why and the how of it to these neophytes. Student teachers who want to learn "all about teaching agriculture" may remind one to build up certain phases of the program to make it more nearly complete. Those who have had student teachers for two weeks of summer experience sometimes take a new look at their summer program as they help these young men to observe what they are doing and discuss with them the entire summer program of activities.

While one might avoid becoming provincial in his teaching by a look outside the state, he could also start the active process by participating in conferences and other meetings of professional people not directly connected with agriculture. These might include general conferences on vocational education, meetings dealing with guidance people, or workshops concerned with adult education. We have seen such meetings well attended by other teachers, but with teachers of agriculture not so well represented. These other educators need to learn about programs of agricultural education. But what might be gained from such contacts could be more significant.

There probably are no teachers in our public schools that have built a better reputation through the years as members of the profession devoted to their job than teachers of agriculture. None can show as many avenues available for professional growth or more leadership available to assist in this growth. Whether this reputation is maintained in the future, and whether as individuals we merit this reputation, will be determined to a large extent by what we as individuals do on a "self-starting" basis. This profession needs members who dare to depart from the traditional and creatively develop better programs, better procedures, and better ways of serving rural America. □

A worthwhile solution to an annual problem - - -

The FFA Trip

ROY R. KOSS, Vo-Ag Instructor, Algoma, Wisconsin

Roy R. Koss

MOST chapters plan some end-of-school camping trip, educational tour, or outing of some kind that involves some or all of their chapter, but the questions are: What shall it be? When shall we go? Who shall go? How shall it be financed? When is the proper time? How about insurance? And finally, but very important, what will prove to be of most value to the students, the school and the chapter? Too, we must consider the interests of the community, and of the parents of these boys.

During my seventeen years of teaching I have given all of these questions many hours of consideration, have tried different plans and then considered my results. The following system, I feel, is a good long-time plan that has a minimum number of problems and yet has proved to be very worth while.

We have worked out a four-year program that can be used successively and by so doing can take the rough spots off of the previous four-year program. We are finishing the fourth year of our third round. Our four-year program consists of educational tours to three different areas within the boundaries of the state and one tour into Michigan.

The reason we go on educational tours in place of camping trips is that, after a careful survey, I found that very few rural boys while in high school get a chance to experience large urban conditions such as restaurant eating, hotel sleeping and being able to see big city life and big business operation.

A Typical Tour

This year (the fourth year of our plan) takes us to the twin cities, Minneapolis and St. Paul. We plan to leave at 2 a.m. on Thursday morning so as to reach our first main stop en route, which the U. S. Rubber Co. at Eau Claire, Wisconsin, by the middle of the morning. From there we go to River Falls, Wisconsin, to tour the Agricultural Department of the State Teacher's College. This is a long day, but if industry is to be seen in operation full use must be made of the week days. And, incidentally, with days as full as this the boys are ready to retire instead of using remaining energy in possible hotel skirmishes.

The next morning, Friday, our agenda takes us to the University of Minnesota Campus, a tour through Midland Co-op, a study of the Grain Exchange, the Minneapolis-Moline Tractor plant, and King Midas Flour Mills.

On Saturday morning, we leave the hotel early to get to Chippewa Falls Wollen Mills before noon while it is still in operation. On our way home, on Saturday afternoon, our stops are at The Rib Mountain State Park near Wausau and at Shawano, Wisconsin, and the Badger Breeders Inseminating Co-op which is open to the public seven days a week. By arriving home on Saturday night, the boys can attend their own churches and get partly rested up for the next couple weeks of school.

Managing the Trip

The FFA officers and I manage a trip of this kind by sharing responsibility. First of all, all of the boys in the chapter have a chance to go if they meet the following conditions: farming programs kept up to date, scholastic standings complete with no failures, and personal character O.K.'d by the entire school faculty. The boys are divided into groups of

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The FFA Trip - - -

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six of their own choosing with a captain appointed to lead each group who, in turn, is held responsible for periodic roll calls, hotel checking, and the general behavior of the group. All six of the boys must be together at all times—especially during their meal times, when in the hotel room, and the couple of hours of free time that may be available in the early evening hours. By doing this we narrow to a minimum the chance of them straying off by themselves. We also keep a check sheet on the hotel lobby desk on which the captains must check the time leaving the hotel, the exact destination, the probable return time, and the time when they do return, thus giving the supervisors an exact location of the boys at all times in case of an emergency.

A week before we leave, a letter is sent to each parent giving the complete details of the trip so that they may contact us, if necessary. A permit slip is required that bears the parent's signature and which includes a signed statement to the effect that they will assume responsibility.

We travel by school bus and two or three automobiles as needed. The bus and cars are driven by fathers who also act as chaperones. All vehicles are fully insured and extra insurance is taken when we leave the state boundaries.

We plan our year's activities so we are able to furnish transportation, lodging, and group admissions and tolls from our treasury. The boys purchase their own meals except where they are guests of companies.

We have found through experience that these educational tours should be taken toward the end of the school year, not after school is out, because of much closer contacts and because of requisites that we have set up which are necessary to manage the group.

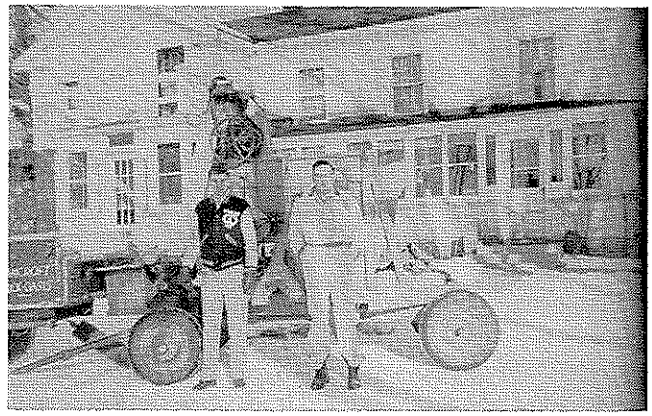
I believe that this system is well-rounded, self-governed, highly educational, and well accepted by the parents and community. Favorable comments regarding the trip are heard continually through the year from the parents, friends, and the boys. Complimentary letters and cards are received by us from the hotels, restaurants, and businesses that we have visited, commending the boys and inviting us back at another date.

It is a tremendous undertaking, but it is well worth the time. □

An example of how - - -

The FFA Serves the Community

ART MULLEN, Vo-Ag Instructor, Plainfield, Wisconsin



Seed treating machine. Posing are the FFA President, Dick Kalata (L), and vocational agriculture instructor, Art Mullen (R).

A good example of how a worthwhile FFA project can develop in a community is the seed treating and cleaning program of the Tri-County High School of Plainfield, Wisconsin. The department was founded in 1940 by Jim Porter, a graduate of the University of Wisconsin. After one year he left for service and Vilas Mathias took over for one year. Since then the department has been operated by Art Mullen.

Porter organized the FFA and Mathias first looked around for a community project for the boys that would sell the new club to the people. No one in the community was treating grain to any extent so he built two Minnesota hand treaters and the first year did about 400 bushels for 20 farmers.

Mullen added a small hand fanning mill to the project so the seed could be cleaned as well as treated. This increased the service to 40 farmers with 1600 bushels of seed in 1943. By 1947, 102 farmers with 6200 bushels were being helped.

The fall of 1947, school consolidation brought a big change in the school area and resulted in an enrollment of 210 in the high school with 70 in the vocational agriculture department. The number of farms in the district was doubled. This increase in the area brought on another big jump in the work as the boys did 8500 bushels for 132 farmers.

The next fall when the FFA set up their program of work for the year, the boys realized the project had grown so that it no longer was possible to do the work with hand equipment. They decided that if nothing could be done to improve their equipment they would have to quit. The school board, which is made up of 5 farmers and 2 city representatives, was convinced that the seed treating work in the community was appreciated and necessary. A committee was appointed to investigate and bring back recommendations on what should be done.

Encouragement from the school board really spurred the boys and their advisor. They knew that with the number of bushels to be cleaned and treated, they had to handle at least a 100 bushels an hour. After contacting several companies, a cleaning and treating machine was selected that promised to meet the need. The next big problem was to raise the $1,300 necessary to purchase the machine and equipment. The school board offered to loan the chapter the money without interest with the principal to be repaid at the rate of $100.00 per year.

The word of the new equipment soon went around the district. The first year after the purchase of the new equipment, worked jumped to 16,000 bushels of seed for 216 farmers. This has been about the average ever since. One year they had a high of 20,000 bushels and another year a low of 14,000. The quality of the crop raised in the area determines the amount they do in any one year. The machine has now processed about 175,000 bushels of grain.

The popular part of the program to the farmers is the doing of the work on the home farm. The instructor and his boys find that after they have once been to a place that the next time there will be a note on the door to do so many bushels and put the sacks in a certain place along with the bill. The farmer never has to touch the grain until he plants. A schedule to keep travel costs down for doing the work is made out on a neighbor-

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Inseparable parts of our programs - - -

Public Relations and Adult Farmer Classes

L. P. HUDSON, Vo-Ag Instructor, Huddleston, Virginia

L. P. Hudson

WE recognize as a fact that the teacher of vocational agriculture is a key figure in the public relations program of any rural school. As a key figure in this program, he must be wide awake to every means of furthering school-community relations, not only for the vocational agriculture program but for the entire school. The adult-farmer program affords many excellent opportunities for this. This class alone brings the teacher of vocational agriculture into intimate relationships with persons and families who are never seen by any other faculty member.

The adult-farmer class more often than not represents a cross section of the population of the community. We work in this class with farmers who have children in school taking both vocational and non-vocational courses. We work with farmers who are active members of civic clubs, who are leaders in the local churches, and with farmers who may also be school board members, county supervisors, or professional men as well as farmers. It is not uncommon to find among the membership of an adult-farmer class a rural doctor who is also a farmer, or an automobile dealer who owns and is very much interested in a farm. If, then, we have the several different publics of the community represented in our class, our problem is how to best utilize them in furthering public relations for the school.

The first step must be a good teaching job. Unless we provide quality instruction, any other effort we make is certain to fail. Good teaching will include democratic methods for developing the course of instruction. The teacher must guide the farmers into recognizing their own needs rather than trying to tell them what is best for them. Then, in his instruction, he should assume the attitude of a learner and develop the subject by working with those in his class for mutual understanding. This tends to give each farmer in the group a feeling of importance; he feels that he is making a definite contribution toward the solution of the problem being studied by the class and he leaves with a feeling of satisfaction. More friends can be made in one night this way than will be made through any number of lectures.

After doing a good job in the classroom we must follow with on-farm instruction. While we recognize the importance of good teaching, we need not limit our visit to pure instruction. Certainly we do not wish to waste a man's time but we should listen with sincere interest to the problems, personal or otherwise, that he feels like discussing. The sooner we can get the farmer to realize that we are interested in him and his family, the sooner we are going to be on intimate terms with him. Another very important part of the farm visit is getting to know other members of the family. We should talk with other members in the family and assure them of our friendship and invite them to visit the school.

While on each farm if we recognize problems, help the farmer see his needs, and provide the assistance and educational services needed, we will gain the support of the farmer. According to Hamlin, "farmers respond in large numbers when even fairly good programs of adult education are offered them by the schools."[1]

The good instructional program will do much toward strengthening public relations with the farmers for our program, but how about the rest of the school which we are representing? We should use every opportunity, and these are abundant, to explain the school program, procedures, objectives, and teaching methods. We should discuss progress of students with their parents. We must be sincere in our work with both students and patrons.

Doing a good job in teaching is not enough. We must let everyone even remotely concerned know that we are doing a good job. This necessitates publicity. Our publicity should be planned well and should make use of the various media available to us. Early in the year we should meet with our advisory counsel and plan a definite schedule, on a calendar basis, of radio and television programs, news articles, and talks to civic clubs, church groups, parent-teachers meetings and other groups. In these programs we should utilize class members, tape recorded interviews, photographs of farming activities, farm record summaries, and activities of individual class members and groups.

Finally, the persons who too often are last to hear of our activities, but should be first, are our school administrators. We should include them in all of our plans and keep them well informed of our progress.

If we wish to become firmly established in the community, we will give much thought to the following means of strengthening the public relations program:

1. Do a good job of teaching and follow up with home visits.
2. Have a sincere interest in people.
3. Explain the school program at every opportunity.
4. Have a planned schedule for publicizing our program through the various available media.
5. Keep the administrators informed. □

[1]Hamlin, H. M., *Agricultural Education in Community Schools*, Danville, Illinois: Interstate, 1949. p. 253.

The FFA Serves - - -

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hood basis. Six or seven boys are needed to keep the machine going at full capacity. This crew can turn out about 700 bushels a day. At the end of the year, the chapter will clear between $500-700 over expenses on a charge of $.10 per bushel.

The chapter members have found that they can run their year's FFA program of educational trips, recreation, meetings, club projects—such as their pure bred gilt project, buy special equipment for the department—such as a moisture tester, and conduct other regular FFA events on the money thus earned.

In 1952, as the school board took a good look at the seed cleaning and treating program, they told the boys that if they kept up the good work they could forget the $100.00 a year on their loan. □

BOOK REVIEWS

New Book Review Procedures

The Book Review Editor of *The Agricultural Education Magazine* receives copies of books which the publishers think will be of interest and value to the field of agricultural education. Perhaps if more people are involved in reviewing new books, interest in this area will be increased.

Plans are being made to solicit the assistance of teachers, supervisors, and teacher trainers in reviewing books. A rotational system is being planned so that no one person will find his share to be excessive. In the future, when Book Reviews appear in the magazine, the reviewer's name, position, and state will be given.

Those who have agreed to help initially are:

Dr. George W. Sledge, Teacher Trainer, Wisconsin
Dr. Earl H. Knebel, Teacher Trainer, Texas
Dr. George L. O'Kelley, Teacher Trainer, Georgia
Mr. F. E. Kirkley, Teacher Trainer, South Carolina
Dr. T. R. Buie, Teacher Trainer, Texas
Dr. B. C. Bass, Teacher Trainer, Virginia
Dr. Raymond A. Garner, Teacher Trainer, Michigan
Mr. G. Herman Porter, Graduate Student, North Carolina
Dr. Denver B. Hutson, Teacher Trainer, Arkansas
Mr. H. T. Pruett, Teacher Trainer, Alabama
Dr. Carl F. Lamar, Teacher Trainer, Kentucky
Dr. Lowry Davis, Teacher Trainer, Ohio
Dr. Duane M. Nielsen, Teacher Trainer, Iowa
Dr. R. W. Beamer, Teacher Trainer, Tennessee
Dr. W. T. Loftin, Teacher Trainer, Florida
Dr. V. R. Cardozier, Teacher Trainer, Tennessee
Mr. H. E. Beam, District Supervisor, North Carolina

Gerald B. James
Teacher Trainer (N. C.)
Book Review Editor,
The Agricultural Education Magazine

BASIC ANIMAL HUSBANDRY by John M. Kays. Published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, New York, 430 pp., illustrated. 1958. Price, $7.00.

This new book deals with a comprehensive study of breeding, feeding, and many other aspects of animal management. It is designed to supply the basic and most significant features of a successful livestock program. Livestock included and discussed separately by parts in the book include beef cattle, swine, sheep, and horses. Each type of livestock is treated in detail and each part deals with such aspects as selection, market classes and grades, marketing, slaughter and animal products, breeding, feeding, and other aspects of animal management.

The author incorporates the latest practices and places emphasis on the practical aspects of production and marketing rather than on the refinements of conformation and breed character more appropriate to the show ring. The common animal terms are clearly defined and the history and development of such animals as the racing Thoroughbred and the fine-wool Rambouillet sheep are described.

Basic Animal Husbandry is technical and complete enough as a basic text for the high school student and informative and practical enough to be used as a handbook for the livestock farmer. Significant aspects of the book are illustrated by photos, tables, and charts which add to the usefulness and completeness of the book.

Dr. Kays is a Professor of Animal Industries at the University of Connecticut.

—Denver B. Hutson

FUNDAMENTALS OF SOIL SCIENCE (Third Edition) by C. E. Millar, L. M. Turk, and D. H. Foth. Published by John Wiley and Sons, Inc., 440 Fourth Avenue, New York, N. Y. 526 pp., illustrated. 1958. Price $7.75.

This book was written primarily as a college text for use in the introductory course in soils. Also, it may be a good reference book for teachers of agriculture and others on the principles of soil management.

This book is the third edition. It is completely revised and brought up to date. The book holds to the four objectives of the second edition. However, new basic principles of science developed since the second edition are added and more emphasis is given to soil texture and the concept of the texture profile. Also, there is included a good discussion of the influence of the soil-forming factors on soil development and of the differences in the behavior of soils. Emphasis is placed on proven soil-management practices, while the details of practice have been held to a minimum.

The book is easy reading and well illustrated. The material is arranged in a logical sequence for effective study of the basic principles of soils and soil management.

Messrs. Millar, Turk, and Foth are associated with Michigan State University. Mr. Millar (deceased) was Professor Emeritus of Soil Science. Mr. Foth is Professor of Soil Science, and Mr. Turk is Director of the Agricultural Experiment Station.

—Carl Lamar

SOIL CHEMICAL ANALYSIS by M. L. Jackson. Published by Prentice-Hall, Inc., Englewood Cliffs, N. J. 498 pp. illustrated. 1958. Price $9.00.

This book is a useful text for undergraduate and graduate courses dealing with the chemical analysis of soils. Also, it should be a valuable reference for research workers in soil chemical analysis and for soil chemists. It gives a comprehensive treatment of the procedures and fundamental principles of soil chemistry and presents, in a logical sequence, the most frequently used soil chemical analysis procedures useful in instruction and research in soil chemistry, soil fertility, and soil development. Procedures are also given for the determination of plant inorganic constituents. Considerable space is allotted to soil chemistry; characteristics essential to the chemical analysis of soils is stressed. Although the modern up-to-date techniques of chemical soil analysis are emphasized in the book, some attention is given to procedures that require simple equipment.

The tables and paragraphs are numbered consecutively by chapters for cross referencing throughout the book. Suggested study outlines and questions at the end of each chapter should be helpful to students in using the book.

Mr. Jackson is Professor of Soils in the Agricultural Experiment Station, University of Wisconsin, Madison.

—Carl Lamar

SOILS: AN INTRODUCTION TO SOILS AND PLANT GROWTH by R. L. Donahue. Published by Prentice-Hall, Inc., Englewood Cliffs, N. J. 349 pp., illustrated. 1958. Price $6.75.

This is a new book on the fundamentals of soil science. It is a concise presentation of the broad area of soils. The author indicates in the preface that the book was written for universal application and not for any particular region. Considerable attention is given to soil management in humid, arid, and semiarid regions.

The text gives a good discussion of soils and plant growth. It is well illustrated with color plates, photographs, maps, graphs, and tables. Also, it is well organized for interesting and easy reading. The summary and questions at the end of each chapter and glossary in the appendix should be helpful to the beginning student in soils.

There are 23 chapters, and the book is divided into two parts. Part I deals with the fundamentals of soil sciences while Part II pertains to applied soil science. The book is written on the level of the first-year college student; however, it is well adapted for use by teachers of vocational agriculture.

Mr. Donahue is Professor of Agronomy on the Kansas State College-International Cooperation Administration-India Team.

—Carl Lamar

◀ TIPS THAT WORK ▶

Summer Notebook

Clarence R. Hall

A SUMMER notebook has become a must for me. Its main section contains a sheet for each boy such as is reproduced below. As soon as a boy enrolls in vocational agriculture, a record is started for him. Pertinent information taken from his home farm survey sheet is entered on this record. The record itself can be reproduced on heavy paper so that it can be used during his high school years.

As the student plans his productive projects and as he progresses in his vocational agriculture and Future Farmer work, entries can be made on this record.

During the summer, these sheets are carried in a notebook and kept handy so that just before going on a farm, a quick review of pertinent facts can be made. Brothers, especially younger ones, are usually found around the buildings and can be called by name. They, too, are prospective students.

There, too, are the records of his projects and previous projects along with notes and recommendations. Often details can be called to mind which will help when checking and advising on project work and for guidance of the student. Mr. Urton, our State Advisor, often states that the biggest job of teaching and certainly of advising and counseling can be done on the boy's farm where you have a much more personal contact with him and where you can place yourself into his environment. There is a space for brief notes and for a picture.

STUDENT RECORD VOCATIONAL AGRICULTURE

Name..... Address..... RR.....

Birthday.....19.... Started Ag. 1 2 3 4 195.. Phone.....

Father's name..... Mother's name.....

Brothers .....

Sisters .....

Size of farm..... Number of cattle.....

FRESHMAN: Productive Projects:

Improvement Projects

SOPHOMORE: Productive Projects:

Improvement Projects

JUNIOR: Productive Projects:

Improvement Projects

SENIOR: Productive Projects:

Improvement Projects

Extra Curricular Activities and Special Recognition:

Green Hand..... Chapter Farmer..... State Farmer..... A. Farmer.....

Officer: .....

Judging Teams:.....

.....

Other: .....

.....

.....

RECORD OF VISIT: Date, Comments.

RECORD AFTER GRADUATION Photo

Upon graduation, this record can be placed in a permanent file. Entries can be made from time to time as you hear about or see this particular person.

In this same notebook is a section for recording mileage, dates for proposed visits and any other pertinent data. There is a map of the locations of all of the students so that plans can be made to visit all students in a particular area.

Clarence R. Hall,
Vo-Ag Instructor,
Watertown, S. Dak.

Earning Money for the FFA

For many years making money has been a problem in our chapter, but this year we have found the answer. We previously sold Christmas cards, magazines and candy, but we had so much competition from all the local civic clubs, Scouts, and Camp Fire Girls that we were lucky to make fifteen or twenty dollars. Boys just don't like to sell these items; they like something that is a man's product.

Last October we received a few units of "Chem Cold Weld." Almost overnight the boys were sold on the results of the product. It may be used by farmers, housewives, filling station attendants and truck drivers to repair broken items. Each boy wanted to sell it because it was very satisfying to know they had something that would help almost anyone. "Cold Weld" is used to repair leaky gas tanks, oil pans, broken sinks, and leaky boats; in fact, it will weld anything to anything provided it doesn't have an oil base. Some of the items which were repaired were broken motor blocks, lawn mower housings, car door handles, TV knobs, shoe soles, rust holes in cars, broken windows, dishes and glassware. With it you can weld glass to wood, copper to iron, aluminum to cloth and leather to iron. It is acid-resistant, non-corrosive and non-conductive to electricity. It will not dry out when unused after it has been opened. In fact, our chapter and the people of our county are very happy with it.

We sold enough to make $240.50 in less than a month and we get return orders all the time. Our chapter is the distributor for the product in our county and receives a commission on all sales made locally. We have two local gas stations, a lumber yard, a sportsman shop and an appliance store who are dealers for us. Every chapter can do the same thing if they will just write to:

Lightguard, Inc., Box 415, Pollock, Idaho.
Minidoka Chapter, FFA
Rupert, Idaho.

Lynn Schodde, *President*
Jim Martsch, *Secretary*
Melvin DeWitt, Keith Merrill,
Advisors

Professional *and* Teaching Aids

Charts of Agricultural Occupations for Farm Youth, by H. M. Byram, published by Interstate Printers and Publishers, Inc., Danville, Illinois. This set of three charts entitled, *Occupations in Agricultural Production, Occupations in Agricultural Business,* and *Agricultural Professions,* presents an overview of the major occupational opportunities open to students with interest and training in agriculture. Designed as introductory material for a unit on agricultural occupations, the charts will be useful to teachers of agriculture, guidance counselors, and others who work with youth groups. A brochure with suggestions for using the charts accompanies them. Price is $2.00 for the series of three charts, 22" x 28".

Series of Publications and Filmstrips on Agricultural Engineering. Produced by Southern Association of Agricultural Engineering and Vocational Agriculture, Barrow Hall, Athens, Georgia. A list of the available publications and filmstrips follows. (P—Publication, FS—Filmstrip)

(P) Planning Farm Water Systems. 80 pp., 187 illustrations. Price—$1.00.

(FS) Planning Farm Water Systems. Set of two strips, 128 single frames, in color. Price—$11.00.

(P) Selecting Farm Electric Motors, Controls and Drives. 36 pp., 82 illustrations. Price—50¢.

(FS) Selecting Farm Electric Motors, Controls and Drives. 60 single frames, in color. Price—$5.50.

(FS) How Electric Motors Start and Run. Set of two strips, 86 single frames, in color. Price—$11.00.

(P) Planning the Farm Home Wiring System. 38 pp., 88 illustrations. Price—40¢.

(P) Maintaining the Farm Wiring and Lighting System. 48 pp., 150 illustrations. Price—45¢.

(P) Electrical Terms—Their Meaning and Use. 36 pp., 75 illustrations. Price—75¢.

(P) Planning Farm Fences. 44 pp., 123 illustrations. Price—50¢.

(FS) Planning Farm Fences. 70 single frames, in color. Price—$5.50.

(P) Building Farm Fences. 36 pp., 140 illustrations. Price—50¢.

(FS) Building Woven and Barbed-Wire Fences. Set of two strips, 141 single frames, in color. Price—$11.00.

(P) Planning a Farm Shop Layout. 48 pp., 110 illustrations. Price—75¢.

(FS) Planning a Farm Shop Layout. 69 single frames, in color. Price—$5.50.

(P) Planning the Farm Machinery Storage Layout. 28 pp., 84 illustrations. Price—60¢.

(FS) Planning a Machinery Storage Layout. 54 single frames, in color. Price—$5.50.

(P) Planning the Machinery Storage and Shop Structure. 36 pp., 80 illustrations. Price—70¢.

(FS) Planning a Machinery Storage and Shop Structure. 60 single frames, in color. Price—$5.50.

These publications and filmstrips are the result of cooperative endeavor by agricultural engineers and agricultural educators in the Southern Region. The materials combine printed material and visual aids to tell a very effective story. As evidence to the quality of the material, several have received a Blue Ribbon Award for excellence by the American Society of Agricultural Engineers. The publications are well illustrated in color. The filmstrips all contain a script on the film. A brochure giving more details on these materials is available from the address given at the beginning of this description.

Submitted by
Joe P. Bail, Chairman,
Professional Information Committee
Cornell University

News and Views of the Profession

L. P. Jacks to Mississippi State University Staff

L. P. Jacks

L. P. Jacks assumed the duties of Assistant Professor of Agricultural Education at Mississippi State University on February 1, 1959. He taught vocational agriculture in several high schools in Mississippi for 15 years before joining the Teacher Training Department of the University.

Mr. Jacks is a native Mississippian, and gained his farm experience on a 300 acre farm in Montgomery County, Mississippi. He received both his B.S. and Master's degrees from Mississippi State University. He has served on the State Textbook Rating Committee, as Chairman of the Mississippi Vocational Association Nominating Committee, and has participated in other activities in the field of vocational agriculture. Since 1949, Mr. Jacks has served as critic teacher, assisting in the training of approximately 60 prospective teachers of vocational agriculture.

Mr. Jacks is a member of the ATA fraternity and the Collegiate Chapter of FFA. □

Joins Magazine Staff

A. J. Paulus

A. J. Paulus has been named to represent the Southern Region on *The Agricultural Education Magazine* staff.

Paulus was reared on a small dairy and grain farm in Ohio. He was graduated from Ohio State University in 1924 and taught vocational agriculture in Wayne County, Ohio, until 1927. He received his Master's and Ph.D. degrees from Cornell University in 1928 and 1930, respectively. He was in teacher-training work in South Carolina until 1934 when he was named general education department head, a position he held until 1938. Since 1938, he has been a teacher-trainer in agricultural education, with special emphasis on subject matter service, at the University of Tennessee. His responsibility includes book reviews, preparation of bulletins, and teaching graduate courses both on-campus and in the field. His hobby is writing poetry. □

The Cover Picture

Each year we have a State Vocational Agriculture Exhibit at the State Fair. The responsibility for preparing and setting up the exhibit is rotated among the districts. This is a picture of the exhibit for 1957. (South Dakota State College Photo)

Letters to the Editor

Dear Dr. Krebs:

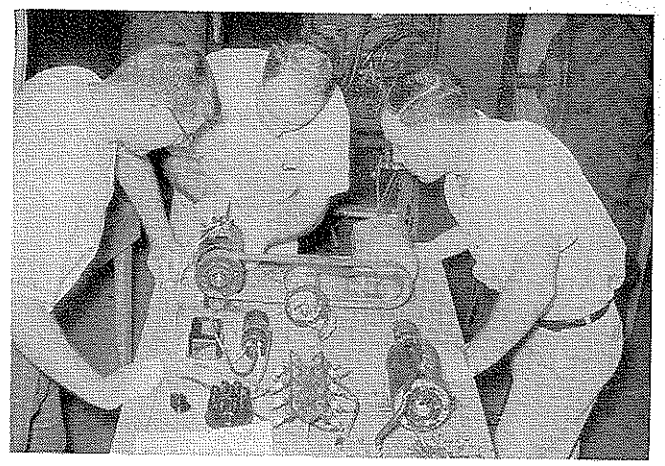
Thank you and your staff for printing my article on "Why Teachers of Vocational Agriculture Leave the Profession" in the February issue of the *Agricultural Education Magazine.*

The study has created a lot of interest here in Tennessee and many of the recommendations are now being put into practice. I feel that many of the findings probably would apply to other areas of the United States.

Thank you again for your interest in my research report.

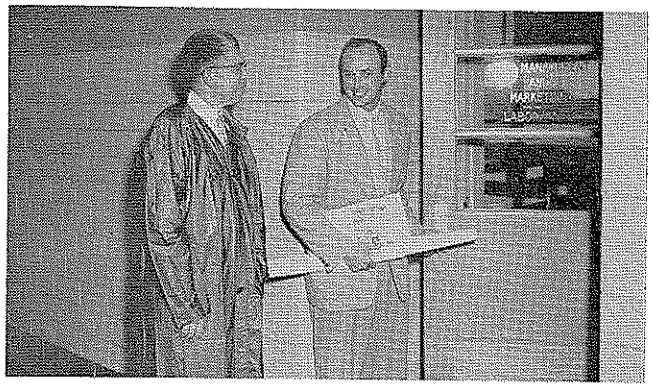
Sincerely yours,
Edwin E. Lamberth
Vo-Ag Teacher
Spring Hill, Tennessee

G. H. W. Schmidt, Vice-President, Florida Ford Tractor Company, Jacksonville, presenting the 1957 Farm Mechanics Awards at the 29th annual State FFA Convention in Daytona Beach. Dewayne Williams, Tate Chapter at Gonzalez, receiving the $100 Future Farmers of America Foundation check and a $100 Savings Bond from the Florida Ford Tractor Company, as State winner. District winners receiving $50 Savings Bonds, which is also sponsored by the Florida Ford Tractor Company: Roger Downs, Quincy; Donald Turner, Brandon; Shelly Swift, Ocala; Theron Hingson, Suwannee Chapter at Live Oak; James E. Posey, Escambia Farms; and Milton Lounsbury, South Dade Chapter at Homestead. Each County winner received a $25 Savings Bond from the Florida Ford Tractor Dealer in his community before the end of school this year.

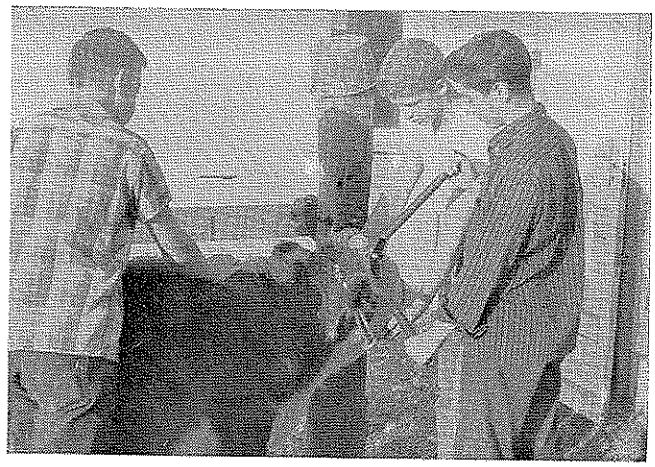


Teachers studying tractor maintenance in summer session course. Here, the ignition system is getting a thorough inspection. (Photo by G. P. Deyoe)

Stories In Pictures



The Department of Agricultural Education at the Ohio State University held a seminar for younger teachers in the College who wish to improve teaching methods. One of the outgrowths of the seminar was an exchange visitation program during which staff members visited each other's classes. In this picture, Dr. Ralph J. Woodin visits the class of Dr. Edwin Shaudys, Professor of Farm Management. Shaudys later visited Woodin's class on Teaching Aids.

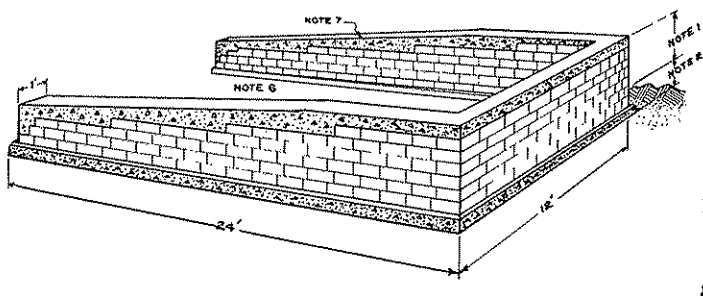


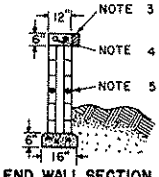
Buena Park, California, Vo-Ag students are dehorning a steer—a "first" for all three boys. Left to right—J. White; J. Magee; J. Mitchell. (Photo by N. Lunde)

MASONRY LOADING RAMP -- PLAN B

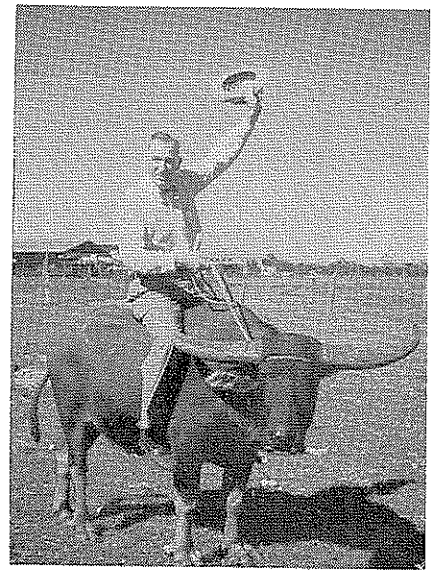
Note 1 -- 4" less than empty bed height of trucks to be used works well. 39" is suggested.
Note 2 -- Footer should extend at least 18" below grade.
Note 3 -- Wooden bumper optional.
Note 4 -- 2 1/2" round reinforcing rods, 3" below surface, 3" in from edges. Bend to go around corners. Lap 12" where rod lengths meet.
Note 5 -- 1/4" round reinforcing rods in mortar joint three courses below surface. Bend to go around corners. Lap 12" where rod lengths meet. Special masonry reinforcing webs now available may be used in place of the 1/4" rods.
Note 6 -- Fill with well tamped cinders or gravel. Earth from excavation may be used as initial fill.
Note 7 -- Concrete cap on ramp wall may be permitted to fill into the core spaces of the top course of blocks.

Plan prepared by H. V. Walton, Associate Professor, Department of Agricultural Engineering, The Pennsylvania State University. Material organized in cooperation with the Department of Agricultural Education for Teachers of Vocational Agriculture. Frank Anthony and Benton K. Bristol, Subject-Matter Specialists in Farm Mechanics Instruction.





END WALL SECTION



Elmer Johnson mounted in true "Western style" on a carabao, the Philippine beast of burden. (Photo by Wilbur Pell)