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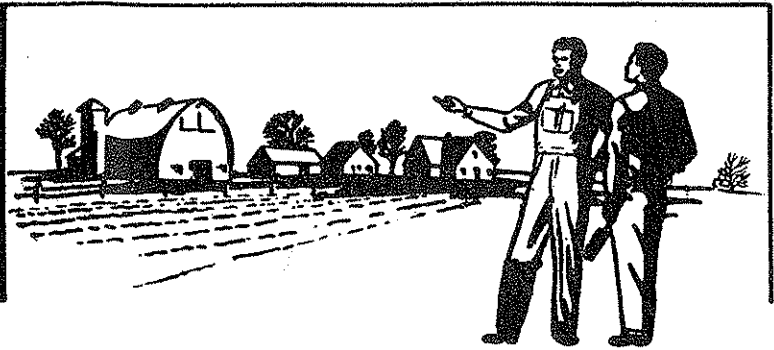
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Featuring— Supervision and Administration
of the Vocational Agriculture Program

The Agricultural Education Magazine



A monthly magazine for teachers of agriculture. Managed by an editorial board chosen by the Agricultural Section of the American Vocational Association and published at cost by Interstate Printers and Publishers, Danville, Illinois.

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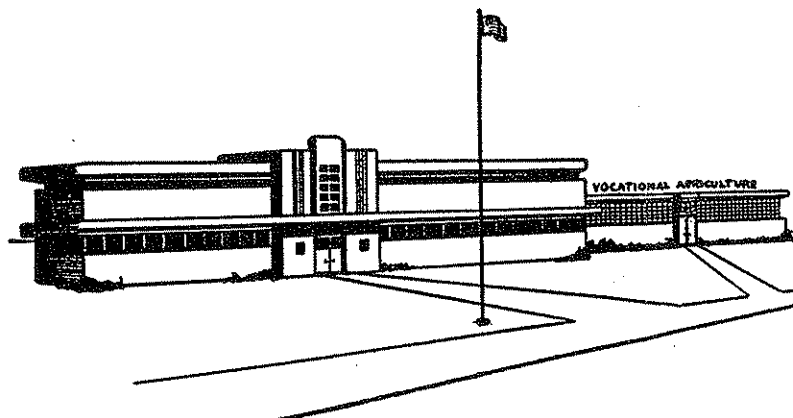
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Editorials

Supervision and Administration Support Sound Program Development

LOUIS M. SASMAN, Chief, Agricultural Education,
Wisconsin.

Agriculture, both as a means of making a living and as a mode of life, has changed tremendously in the last 20 years and even more so in the 40 years since the passage of the Smith-Hughes Act. There has been much discussion during the past few years about the need for changes in the present program of vocational agriculture and even suggestions of changes in the law to allow the program to conform to present-day conditions.

The Smith-Hughes Law, however, simply states that vocational agriculture "shall be designed for those who have entered upon or are preparing to enter upon the occupations of the farm." There can be little doubt in anyone's mind today that both present and prospective farmers are interested in getting information that will help them to farm more efficiently and live more comfortably. If departments of vocational agriculture continue to offer effective training programs for present and prospective farmers there will be little question about the continued strength of the whole vocational agricultural program.

The percentage of people who are engaging in farming is continually decreasing but there is no decrease in the importance of farming to the welfare of the nation, and there is a constant increase in the ability required to successfully farm. So, one of the jobs of administration and supervision of vocational agriculture is to aid in the proper evaluation of the vocational agricultural program as it relates to the needs for agriculture and to national welfare.

The state supervisory program must also help the local instructor and the local school authorities to see the position of vocational agriculture in proper relation to other school subjects and to the whole school. One of the great advantages of the vocational agricultural program has been its development within the public school system. Other departments in the school provide the training needed for a well-rounded citizenship so that the agricultural department can concentrate its efforts on the operational and managerial skills required to successfully operate farms and engage in agricultural enterprises. If we keep our eyes rather firmly on the "main tent" activities very well described by Mark Nichols in *The Agricultural Education Magazine*, September, 1950, strong programs of vocational agriculture should result.

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From the Editor's Desk . . .

Hats off to New Mexico

The following quotation is from a letter submitting orders for subscriptions to *The Agricultural Education Magazine*:

"This represents 100% of the New Mexico Vocational Agriculture teachers and State staff."

The letter was signed by L. C. Dalton, State Supervisor, Agricultural Education, New Mexico.

This is the first time that I have known of a state in which 100% of the workers in vocational education in agriculture have subscribed to *The Magazine*. This achievement is truly an indication of a strong feeling of pride in our profession and a continuing desire to improve in the work of the profession.

Information concerning other states boasting equal achievement with respect to total subscriptions will be welcomed and duly reported in this column in future issues.

Inspiration needed

It is disturbing to hear workers and friends of agricultural education saying that there appears to be a gradual lessening of the spirit that characterized early leaders in the field. If this is true, why is it true? Does it indicate a loss of faith in our professional future? Or does it indicate a loss of faith in the future of agriculture, especially farming? Perhaps we are failing to instill in our young teachers the courage and zeal necessary for facing the challenge to our programs of a changing agriculture — failing to develop an understanding of the rich opportunities which exist in agricultural education.

Whatever the reason for this flagging spirit may be, it would seem to indicate a need for a look at our programs for working with teachers of vocational agriculture to see what can be done to help them find new inspiration for the job at hand. There is certainly much to be done in agricultural education, and the teacher of vocational agriculture is the best qualified person available to do it.

Supervisors and administrators have been talking for years about the tremendous inspiration they have received from observing the excellent work of vocational agriculture teachers. They are in a good position to remind teachers that much hard work lies ahead if we are to maintain a healthy agriculture; that agricultural education will be more important in the future, not less important; that the strength of

(Continued on page 173)



William T. Thomson

Supervision and Administration of the Vocational Education Program

WILLIAM T. THOMSON, Superintendent, Vernon-Verona-Sherrill Schools, New York.

ADMINISTERING and supervising an agriculture program in a large central school requires considerable planning on the part of a busy administrator. He must rely on delegating some of his duties in order to give a fair amount of attention to all departments of the school. As this administrator has been responsible for establishing and developing the agriculture program in a large central school district, the recording of some of the practices and experiences may be of benefit to others.

Capable Teacher a "Must"

Checking the progress of an agriculture program is much easier if the instructors are eager, capable, and self-reliant. For those who have had much to do with the training and observation of teachers, they know the value of ambition and personality in teaching performance. So much of the agriculture program takes place outside the classroom that these qualities of independence in action are a "must" in an adequate and desirable agriculture curriculum.

Reports of Activities Needed

One of the first requests this administrator made to the agriculture department personnel was for frequent reports on the activities of the boys in the agriculture program. Unfortunately many other school departments have no understanding of what the agriculture program is trying to do. This causes many anxious moments for the administrator who must keep things running smoothly. He has to explain the irregularities of the boy's activities to the faculty and keep them sympathetic to agriculture education. A bi-weekly or monthly schedule of the agriculture teacher's activities, program of the FFA, and field trips planned can be issued to all personnel involved and prevent many unpleasant experiences. This same report is given to members of the Board of Education who need to be informed also.

Cooperative planning of work schedules between the boys in agriculture class and their instructors is a "must." However, if administrators and supervisors are invited to sit in on the planning session, or if unable to, to be given the results of the planning, known irregularities in the school schedule can be dealt with ahead of time.

Experience shows that more criticism of irregular schedules occurs when those involved in changes are not informed. Teachers have to be planners too and like to be told what might interfere with their own courses.

Accurate Budget Records Help

The assignment of a budget for instructional materials, text books, equipment, travel and repair and replacement in the agriculture department serves to make the instructors conscious of the cost of operating the program. Account books kept in a manner similar to the master set of books in the business office helps in making quick audits of department accounts at any time. Instructors who must keep their own department accounts are usually more insistent upon pupils' records being in order also.

Public Relations Value Must Be Recognized

The school administrator must see that the entire school community and especially the rural population knows about the agriculture education program. In most communities the service organizations, farm groups, church groups and independent agencies are all potential "helpers" of an agriculture program. Introducing agriculture personnel to these community groups is a prime responsibility of the administrator. Following the introduction of the agriculture teachers to these groups, suitable mailing lists and telephone listings can be made for use at any time. The value of the agriculture department's work in public relations is inestimable when com-

munity support for school projects is needed. In fact, the administrator can determine how effective the agriculture curriculum is by the public's interest in agriculture affairs. Often-times the majority of volunteers for school functions needing adult help come from farm families.

Evaluation of Teaching Involves Many Activities

The task of measuring the quality of teaching of an agriculture department requires special thought on the part of the administrator. The usual visit to the classroom will not always tell the whole story. Time must be arranged for the administrator to make field trips with the agriculture instructor to the homes of the boys who have projects for supervision. Examination of students' record books and mechanical projects is necessary to determine how much of the theory is being put into practice. Attendance at night meetings of the FFA and other meetings of the agriculture department will show what is being done to teach agriculture during off-school hours. The administrator who will take the time to see how much of the work of the agriculture instructor is done during the times when school is not in session will be surprised to find that the classroom situation is only a part of the whole picture. This fact, an important one, has to be brought to the attention of all the school faculty in order to show them that the agriculture program is worthy of consideration on the part of all the "professionals" of the school. Attendance at State and National FFA Conventions, if time permits, will give an administrator a fine opportunity to observe how the boys practice what they learn in school. If the school plays host to a State Convention, administrators and supervisors will gain first hand knowledge of the aims and purposes of the agriculture curriculum. A trip to the FFA summer camp will show how the boys

Administration — a Two-Way Process

Effective programs develop through working together

J. E. DELONEY, Teacher Education, Alabama Polytechnic Inst.



J. E. Deloney

MUCH has been said about the administration of an educational program, but probably the most often quoted statement is "Administration must be democratic."

This is a truism that should be observed by administrators of programs of vocational agriculture.

One of the principles of democratic administration observed by democratic administrators is that everyone who is affected by a policy should have a voice in the formulation of that policy. It is believed that the application of this principle in administration serves two functions:

1. It causes growth on the part of the participants.
2. It recognizes the dignity and worth of the participants as having something to contribute to the formation of the policy.

The principal and the teacher of vocational agriculture are individuals who are interested in professional growth and who, through their individual dignity and magnanimous worth, have much to contribute to an on-going program of vocational agriculture. The burden of application of this principle, then, is a dual one which is shared jointly by the principal and the teacher of vocational agriculture. It becomes apparent that channels of communication between these two key individuals must be established and effectively maintained. Two questions might be asked:

1. What are some possible channels of communication which must be established?
2. What are some techniques which might be used in maintaining them?

In the discussion which follows, an attempt has been made to answer these two questions in three areas of the school's responsibility.

Formulating Policy

Inherent in the principal's respon-

sibility is his leadership role in the formulation of over-all objectives for the total school program. The teacher of vocational agriculture should work cooperatively with the staff of the high school in the formulation of these over-all objectives because he is a professional person and is qualified to make professional contributions to this end. Of equal importance, however, is the fact that the principal, through this technique, has to establish a channel of communication so that each teacher will know the over-all objectives for which he works.

Inherent in the teacher's right to a voice in policy formulation is his responsibility to make an intelligent and studied contribution to the policy. The teacher of vocational agriculture has an equal responsibility to the principal in involving him in the formulation of the objectives and purposes of the local Vocational Agriculture Department. The principal would, then, understand in what ways the Vocational Agriculture Department could contribute to the over-all objectives of the total school program. Through this open channel of communication, he could develop an understanding which would enable him to develop more intelligent procedures for administering a Department of Vocational Agriculture along with the total school program.

Conferring with Parents

The wide-spread faith which the American people have in their schools has been brought about through the understanding which they have of the purposes and functions of their schools. This understanding is a result of many activities of both parents and school personnel. Not least among these activities are the conferences which the principal and teachers have with parents. These conferences give the school personnel a chance to interpret the school and its opportunities and policies, as well as its needs, to the parents. Part of this discussion could be for the promotion, by the principal with the parents, of vocational agriculture.

Professional ethics dictates that teachers evaluate in an accurate and objective manner the school program, personnel, and policies to the parents.

The teacher of vocational agriculture, in all probability, is in contact with more patrons of the school than is any other one teacher. It behooves the teacher of vocational agriculture to promote the principal and the policies of the school in the same fine manner in which the principal represents the program of vocational agriculture to the parents. If he, as a teacher of vocational agriculture, cannot keep the channels of communication open between the school and an interested or a critical parent by answering their questions, or accusations, then he should assume the responsibility of informing the principal so that he may contact these people. These channels of communication must remain open.

Working with the FFA

Teaching democracy through experience is a real aim of the FFA. It is believed that in order to develop the kind of competent, aggressive, rural and agricultural leadership needed for a democratic society, it is necessary to provide "doing" experiences of this nature. This means that the responsibility for the administration of the FFA is a widely shared one. The members of the FFA, the teacher of vocational agriculture, and the principal are the three primary cooperating factors. It is apparent that the members of the FFA should have much responsibility in the administration of their organization within the framework of the policies of the school. It is believed that requests made by the FFA to the principal should be studied by the principal in terms of the types of experiences which the members will have as a result of the approval, or disapproval, of the request. This would mean that the principal would need to be aware at all times of the need for democratic training and the ways and means through which the FFA was planning for its members to get this training. The avenues of communication must be permissive and clear between the principal, the teacher, and the FFA. □

From the Editor's Desk - - -

(Continued from page 171)

agricultural education has always been in adjusting to change, not in fearing to change.

Agricultural education is still a relative newcomer on the educational scene—too young to have lost the need for an inspired, professional staff of workers with a faith in the future. □

A Comparison of Vocational and Non-Vocational Instruction in Agriculture

E. J. JOHNSON, Program Specialist, Agricultural Education,
U. S. Office of Education.



E. J. Johnson

THIRTY-NINE years have elapsed since the passage of the Smith - Hughes Act which made available federal aid to the several states for vocational education including agricul-

ture. This cooperative venture in education has served to stimulate the extent of agricultural training on the secondary level, as well as improve the quality and effectiveness of such training.

From time to time since the passage of the organic Act, there has been enacted further legislation to increase federal aid for vocational education. Such action reflects the national interest in, and the apparent need for, vocational training. This training of persons for useful employment has proven to be essential for our national security and consequent stability during emergency and peace-time periods alike.

In the field of vocational agriculture, it is recognized generally that the training offered or available presents an unusual opportunity to assist farm people with the actual development and improvement of their farming programs. This includes farm boys enrolled in day-schools as well as young and adult farmers who enroll in special agricultural classes.

The development of a comprehensive farming program by day-school students of vocational agriculture necessitates instruction in agricultural science and farm mechanics which utilizes training received through individual farming programs, routine classes, and field trips. Such training experiences aid each individual in developing abilities, acquiring skills, and dealing with farm management problems to more nearly achieve the ultimate goal which is successful establishment in a farming occupation.

Agriculture was taught in many secondary schools prior to the time that federal aid was available for such instruction on a vocational basis.

There still remain some secondary schools that continue to teach agriculture on a basis which does not meet the mandatory requirements for federal aid to vocational education. In some other situations a former vocational agriculture program no longer functions in that capacity because of such factors as: changing from an agricultural to an urban situation, unfavorable administrative attitude, and a misinformed instructional staff. Laymen frequently inquire as to the differences between non-vocational and vocational agriculture. Therefore we must be in a position to answer properly such queries.

From the experiences gained and observations made during nearly four decades, it is now possible to make some comparisons between vocational and non-vocational training in agriculture. Such comparisons should be of assistance to local instructors, school administrators, state staff members and other interested persons or groups endeavoring to determine the extent to which reimbursed programs are vocational.

The following compares vocational and non-vocational instruction in agriculture, mainly on the day school basis, as to the effectiveness of training methods in four distinct areas of instruction, namely; the classroom, farm mechanics, field trips, and training through the supervised farming programs of students.

Non-Vocational Agriculture

- a. Common assignments made to all class members.
- b. Study assignments are seldom on a seasonal basis.
- c. Rely mainly upon textbooks for information.
- d. Instruction is based upon the assignment in textbook without regard to individual needs.
- e. Students are rated upon their ability to answer questions based upon the text assignments.
- f. Workbooks are often used to supplement class assignments.
- g. General notes may be kept on study assignments.
- h. Instruction is largely held within the four walls of the classroom.
- i. Plans are not included to meet emergencies.
- j. Cooperatives are often studied but there is no actual participation by the members of the group.
- k. Classes are seldom available for out-of-school groups.
- l. No national youth organization to enrich the training.

Vocational Agriculture

1. Classroom Instruction

- a. Assignments are made on individual, group, and class basis as applicable.
- b. Job study assignments are mainly on a seasonal basis.
- c. Rely upon reference books, bulletins, visual aids, and experience of the group for information.
- d. The instruction is based upon individual needs of students in their farming programs.
- e. Students are rated upon their "doing" ability, and progress in their farming program.
- f. Record books are maintained on individual farming programs.
- g. An organized notebook is maintained, geared to the local agriculture and the individual's farming program.
- h. Classroom instruction is supplemented by related outside activities.
- i. The instruction is flexible and the related farming programs are thereby adjusted to meet emergencies such as droughts, floods, wars, depressions, and agricultural surplus.
- j. Through classroom instruction, cooperative ventures are initiated and put into practice by members of the group to further stabilize their farming programs.
- k. Classes available for both young and adult farmers.
- l. The FFA as a national organization serves as an integral part of a well-rounded training program.

A Comparison of - - -

(Continued from page 174)

*Non-Vocational Agriculture**Vocational Agriculture***2. Instruction in Farm Mechanics**

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| <ul style="list-style-type: none"> a. A list of manipulative skills is required of each student, often of an industrial arts type. Farm mechanics is seldom included in the program. b. Shop jobs are not necessarily coordinated with the agricultural science instruction. c. The instruction is based on home or school needs. d. The instruction is on a class basis. e. The jobs are usually minor in size. f. The work done with farm machines and equipment is negligible. g. Farm buildings receive little or no consideration in the training program. h. The functional requirements of each job undertaken is not considered essential. | <ul style="list-style-type: none"> a. A list of basic skills fitted to local farming needs is required. Farm mechanics instruction may utilize 50% or more of the student's class time. b. Shop jobs are coordinated with the agricultural enterprises of students. c. The instruction in farm mechanics is fitted to the needs of both the farm and farm home of each student. d. The instruction is geared closely to the individual farming program of each student. e. The jobs are usually of major size, involving many skills. f. The care, repair, operation, adjustment, and servicing of farm machines and equipment receive major consideration. g. The utility value, construction, reconstruction, maintenance, and use of farm buildings receive major consideration in the training program. h. A study is made of the functional requirements of each construction and reconstruction job before the actual work is started. |
|--|--|

3. Instruction Through Field Trips

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Trips are not necessarily planned to achieve essential agricultural educational objectives. Such trips are infrequent. b. Trips are not considered essential to the instruction of students. c. Trips are often based on preparation for competitive activities rather than agricultural educational needs. d. Very little relationship between classroom instruction and field trips. e. Many of the trips are to manufacturing plants. | <ul style="list-style-type: none"> a. Trips are planned and organized to achieve specific educational purposes and objectives. Frequent trips are an essential part of the instruction. b. Frequent trips are taken as a part of the planned instruction. c. Trips are based on the agricultural training needs of individuals, groups or the entire class. d. Trips are to complete the original classroom instruction. Through this means, the experience of the better local farmers is secured. e. Most of the trips are to the better farms of the community to study specific assignments. |
|---|---|

4. Instruction Through Farming Programs

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Students are rarely developing a long-time farming program. b. Objective of establishment in farming is not essential. c. An inventory of farming equipment and facilities is incidental. d. The farming programs of the students, if they have any, are seldom visited and studied by other class members. e. Farming programs of students are not the basis of instruction offered. f. The instructor has no responsibility to provide instruction on the farm. | <ul style="list-style-type: none"> a. Each student plans and develops a long-time farming program based upon the type of farming he plans to follow. b. Objective is the successful establishment in farming of each student. c. An inventory of farming equipment and facilities is developed that is essential to the farming program. d. The farming programs of the students are visited by the entire class or by groups as a means of instruction and exchange of ideas. e. Instruction offered is based upon the farming programs of students. f. The instructor, through planned service calls on a timely basis, provides instruction on the farm. |
|---|---|

In the foregoing comparisons an effort has been made to treat briefly the various items in those areas where it seemed to be most appropriate. However, it is recognized some of the items are not entirely confined to the area where they are mentioned. Such items as farm safety and farm management are of major importance in each of the four areas and, as such, could not properly be handled under any one of the headings.

There are many accidents in rural areas which are detrimental to life, limb, and property. Most of these accidents could be prevented readily through proper and timely instruction. In vocational agriculture, whether in the classroom, farm mechanics shop, or on the farm, safety measures are taught and practiced in all phases of each activity which makes such instruction sound. In general agriculture, safety is usually taught as a sepa-

rate subject or topic and is not geared to specific activities which could make such instruction effective.

The prosperity of the farmer and his consequent stability is often closely allied to the following of sound farm management practices. In vocational agriculture the participation in farm management practices is taught as an integral part of all activities concerned with each individual's farm-

(Continued on page 179)

In-service education

HOWARD W. DEEMS, Teacher Education,
University of Nebraska.



Howard W. Deems

IN-SERVICE education, as used in this article, refers to planned activities and services that contribute to professional growth of teachers and improved effectiveness of educational programs. The modern concept holds that teachers, from the time they enter the profession, should have opportunities for growth through the cooperative analysis of problems encountered in their calling.

In-Service Education Needed and Wanted

The need for in-service education has many sources. First, a rapidly changing society places new demands upon teachers and educational systems. Second, new practices and developments require in-service education to keep members of the profession abreast of changes. And third, a desirable level of proficiency has not been reached by some persons entering the profession. Teachers of vocational agriculture have additional needs for in-service training. They must be masters of many subjects, all of which are changing rapidly. Agricultural educators must understand practices and be able to perform effectively in the areas of farm mechanics, agricultural chemistry, animal husbandry, crops, soils, marketing, and management.

A recent study in Nebraska¹ indicates that teachers of vocational agriculture in the state want in-service training. These teachers appear to be willing to spend time and money for professional improvement.

They believe the in-service program provided by teacher-education institutions is good and that it is improving each year. However, the teachers mix in with their compliments a few comments that should

not be overlooked. They are saying: (1) "Sure thing, we need training, but please give us the material we need and must have first, then present the 'ivory tower' stuff." (2) "We realize certification laws and educational policy 'molds' (pun intended) in-service education, but please work for improvement." (3) "We know that ambitious people often present their programs and projects to us to sponsor, and then generously provide in-service training on how to conduct them. But please remember we have programs and plans of our own. Some of our programs, with just a little help, might make real contributions to education."

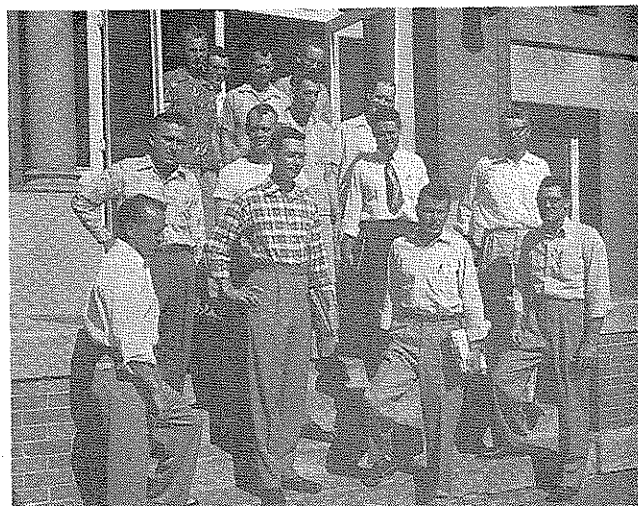
Areas of Need Defined

According to the 132 teachers of vocational agriculture returning information forms in the Nebraska study, the six areas of greatest need for in-service training, listed in descending order of importance, are as follows:

1. Knowledge of new developments in agriculture.

Teachers point out that in order to properly assist, guide, and supervise pupils with their farming programs they must know, understand, and appreciate sound agricultural practices. Irrigation procedures, new methods of controlling plant diseases, proper use of fertilizers, and changing farm management practices are specific areas of technical agriculture in which Nebraska teachers indicated a need for training.

Data from the information forms further indicate that farmers and future farmers, with whom the teachers work, need more than facts and skill. Much of the teaching must be aimed at the development of insight, attitudes, and appreciations. As one respondent pointed out, it is easy to change a practice, but



Summer classes back on the campus help keep Vo-Ag teachers up to date.

difficult to change a person. Teachers are realizing ever more clearly that a changed practice will not stay changed unless the person who carries on the practice is also changed.

2. Ability to perform certain skills in farm mechanics.

Teachers explain that the shift from building nail boxes and milk stools to maintenance and repair of tractors and combines makes teaching in farm mechanics more complicated. Greater mechanization on farms, more rural electrification and more home farm shops are factors bringing about rapid changes in this phase of the Vo-Ag program.

There are two central changes appearing in the farm mechanics program. The first is a broadening of content. The second is a change of objectives of present units of instruction.

All this, teachers point out, emphasizes the need for in-service training in the field of farm mechanics.

3. Ability to organize and use advisory committees.

Teachers of vocational agriculture are aware of a need for advice and counsel in planning and conducting a program of agricultural education. Some, since their first year of teaching, have relied upon individual farmers for help and guidance. They understand the importance of a two-way system of communication between the school and the community.

However, teacher responses in the information form indicate that they have many questions

(Continued on page 183)

¹Howard W. Deems, "An Evaluation of the In-Service Program Provided by the University of Nebr. for Teachers of Voc. Agr.," Dissertation, University of Missouri 1956.

Seven Principles of Vocational Education in Agriculture

J. R. HAMILTON, Teacher Education, East Texas
State Teachers College



J. R. Hamilton

AMONG the eleven basic concepts of the word *principle* as found in Murray's Oxford English Dictionary¹—probably the most comprehensive and authoritative treatment of English words in ex-

istence—are the following:

A principle is a fundamental truth or general law on which other subordinate truths and laws are founded; the bases from which the major disciplines are derived; the basic canons of a philosophy.

Murray's work gives the impression that a principle is generally *recognized and accepted* as a truth or law and in this respect is different from an hypothesis. The discovery of a principle is a process akin to a metamorphosis. First, an idea, or combination of ideas, produces an hypothesis; the hypothesis must then undergo a long period of rigorous testing under a wide variety of conditions; and finally, when most of the reasonable doubt has been cleared away, a true principle may be said to exist—true if it actually works. A hundred or a thousand hypotheses may be required in the discovery of one principle. If the foregoing summary of Murray's treatment holds, *principle* is one of the strongest words in the English language and should never be used synonymously with the term hypothesis.

What "guiding principles" can the profession of vocational agriculture lay claim to as the basis for its credence? There are at least seven basic principles that have stood the test of time and experience in the development of vocational agriculture. There has seldom been any dispute over "ends," such as these seven represent, but much disagreement exists in our ranks with reference to the "means" of reaching these ends.

I. THE AIM IS BASED ON NEEDS

Proposition: *The effectiveness of*

vocational agriculture is directly related to the extent to which the training results in an adequate supply of proficient farmers and workers in the extra-farming occupations,² based upon the national, state, and local need for such workers.

The stated aim of vocational agriculture involves society as well as the individual: (1) it is concerned with the *number* of workers needed by society; and (2) the aim is concerned with the *proficiency* of the individual. The nation's welfare is vitally linked with a productive and efficient agriculture. Despite the fact that fewer farm workers are needed each succeeding year, the demand for technological knowledge and skill in modern farming is increasing so rapidly that it places a new and urgent responsibility upon vocational agriculture for a more effective training program.

The application of this principle is suggestive of a decreasing emphasis on numbers along with an increasing emphasis on quality of training.

II. THE PRIMARY OBJECTIVES ARE HUMAN—SECONDARY OBJECTIVES ARE AGRICULTURAL

Proposition: *The effectiveness of vocational agriculture is directly related to the extent to which the training primarily emphasizes and develops those human factors or qualities that a proficient farmer and good citizen should possess.*

To some extent, the effectiveness of the instructional program is directly related also to the degree to which important agricultural goals are reached, but these are not the primary "end products" of vocational agriculture. Apparently, the difficulty of measuring human achievements in comparison with the ease of measuring agricultural achievements has caused a good many teachers to focus their efforts on agricultural accomplishments. The danger in this is that the training of the individual may be overlooked in the mad rush to make a good showing of agricultural progress in the community.

To carry out this principle, the teacher of vocational agriculture should focus his efforts upon the development of those human factors that are necessary for proficiency as a human farmer and a good citizen: (1) functional knowledges and understandings; (2) needed skills and abilities—both mental and manipulative; (3) ideals, appreciations, and attitudes; and (4) proper life aspirations.

A permanent improved agriculture can and will come as a result of educated farm people, not as a result of high-pressure promotion and ready made "recipes" provided by teachers of vocational agriculture.

III. CLASS PERSONNEL BELONG

Proposition: *The effectiveness of vocational agriculture is directly related to the extent to which those enrolled have chosen to enter farming or one of the extra-farming occupations, based upon their interests, aptitudes, and opportunities to enter such occupation.*

A good general education is fundamental to the American democratic way of life but it does not satisfy the need for the special training required by a modern farmer. On the other hand, vocational agriculture is not needed by or intended for everybody. It is designed for farmers, prospective farmers, and workers in the extra-farming occupations.

The boy with a good supervised farming program generally makes a good student in vocational agriculture. It is the boy without such a program that creates the problems. Moreover, it is a rare farmer who is not interested in improving his farming practices; if he is interested, he will have needs for instruction and may need to be enrolled in a class for adults in vocational agriculture.

This principle is suggestive of the stricter selection of students on the basis of their interest in farming and their opportunities to carry out a supervised farming program. This principle is suggestive also of an increase in adult and young farmer work along with the greater use of school farms as a laboratory for non-farm boys.

¹ James A. H. Murray, *A New English Dictionary on Historical Principles*, Volume VI, Oxford: At the Clarendon Press, 1888, pp. 1376-77.

² The extra-farming occupations refer to those agricultural occupations allied with farming but outside of actual farming.

Seven Principles - - -

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IV. COURSE CONTENT—FUNCTIONAL AND COMPLETE

Proposition: *The effectiveness of vocational agriculture is directly related to the extent to which the content of the courses is derived from and will function in the prevailing types of farming and to the extent to which the training is complete enough to develop a specific level of farming proficiency in the learner.*

If proficient workers are to be produced, the content of the courses in vocational agriculture must be more specific than general. Consider dairying, for example. This type of farming has become so highly specialized that great skill in and specific knowledge of dairy science are required to be a successful dairyman. The rapid increase in technological, mechanical, all-electric, automatic farming doubtless will continue to place still greater demands upon the teacher of vocational agriculture to provide a more specific type of course designed to train specialized farmers and farm workers.

Moreover, the aim of proficiency in a particular type of farming dictates that the training must be complete, including the essential understandings and skills possessed by *master farmers* in a particular locality. Such training would necessarily overlap into the young farmer and adult farmer levels.

V. APPROPRIATENESS OF THE TRAINING ENVIRONMENT

Proposition: *The effectiveness of the instruction in vocational agriculture is directly related to the extent to which the training environment resembles the working environment of representative farms in the school district.*

An apprentice auto mechanic must have an auto with which to learn auto-mechanic skills, and a physician must use a human cadaver as the means of learning the details of the human anatomy. Likewise, a farm boy must have a proper environment in which to learn to farm—a farm, of course. Experience has made it clear that the actual object in its natural setting places the learning at the highest possible level of efficiency. The teacher who goes the "second mile" to provide the appropriate environment for his teaching ordinarily reaps the greatest rewards in terms

of student learning.

This principle seems to suggest the greater use of all types of appropriate audio-visual aids as well as local community resources to supplement the sometimes meager resources of the school.

VI. PROPER TIME OF GIVING THE INSTRUCTION

Proposition: *The effectiveness of the instruction in vocational agriculture is contingent upon its being given at the time the learner feels the need for it.*

The principle of timing as related in the third chapter of Ecclesiastes seems to be highly applicable to the teaching-learning relationship. This relationship is rooted in the law of readiness which has implications for (1) the learner as well as (2) the arrangement of the subject matter and activities:

1. Experience has shown that learning takes place faster and is more permanent when the instruction is given at the time the student actually needs help—when he is in a state of high mental curiosity, or when he needs to perform an operation that is important to his welfare.
2. Experience has also shown that there is a need to present subject content and activities at a proper time. This may apply either to a seasonal arrangement or a proper sequence of material (or activities) within a job. For example, the best time to teach the planting of corn is in March or April, not September; the best time to teach welding theory is *after* practice has begun, not before, since the student's perceptive ability will limit the degree of theory he can comprehend.

The principle of proper timing is suggestive of the greater use of young and adult farmer education programs, closer gearing of the all-day program to the life processes of farming in the local community and the greater use of the psychological arrangement of subject matter and activities to be covered. Any and all desirable means of getting the learner into a state of readiness should be used.

VII. TEACHER QUALIFICATIONS

Proposition: *The effectiveness of a local program of vocational agriculture is directly related to the degree to which the teacher is skilled in the prevailing type of farming in his ser-*

vice area and also to the degree of proficiency he possesses and uses as a teacher and organizer of people.

Some teachers of vocational agriculture have been largely responsible for getting the level of agriculture and rural living in their service areas raised. Such accomplishment is contingent to a high degree upon the teacher's being skilled in the prevailing type of farming found in his service area. It is equally contingent upon the teacher's being a skilled instructor and an effective organizer of people. The need for teaching skill is not to be minimized, but the increasing need for skill in technical agriculture and the ability to apply it at the local level is rapidly and surely becoming a major requirement, if not the chief limiting factor, in conducting a successful program of vocational agriculture.

The great need for closer coordination of effort with respect to the local community and its resources seems obvious, as does the need for improved public relations. These abilities serve as the real test that separates the great teachers from the good and average.

This principle stresses the importance of the more careful selection of prospective teachers of vocational agriculture with respect to farming background, more thorough and comprehensive training in technical and practical agriculture, more functional teacher education experiences, and a continuing program of professional improvement geared to the needs of the teacher and his local community.

METHODS OF TEACHING

The most controversial point in this whole question has been concerned with methods of carrying out the principles of vocational agriculture. This is a natural reaction since method has to do with *means* more so than with *ends*, and *guiding principles* fall more nearly into the realm of ends than means.

We might venture this far: that those methods are most successful which engage the learner in directed purposeful activity and result in his adequate personal development; those methods are least successful that employ the telling approach in which little or no activity is required of the learner.

A good teacher can demonstrate how several methods may be equally effective in teaching a given lesson.

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Let every man use those methods that are best suited for him in carrying out the guiding principles of vocational agriculture but above all, apply the principles.

CONCLUSION

While there may be others, the preceding propositions appear to be true principles of vocational agriculture. When any one of them is broken down into fragments however, the fragments lose their power. None of the seven is very vulnerable to attack as long as it is presented as a whole principle. □

Super. and Admin. of - - -

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are taught to relax and work at the same time.

When students have the opportunity to live what they are taught, the teaching process is so much more meaningful. While the regular classroom subject teachers are at home preparing for the next day's work, they should know that other departments of the school are in operation. Effective night work is apt to cut into the home life of the agriculture personnel and it is important that the families involved understand the necessity of night meetings and the place they play in the educational program of the agriculture department. School administrators sometimes find themselves in the role of a family counselor in trying to interpret the need for service beyond the regular school day. It is only by taking part in the complete program of the agriculture department that those who must measure its success can do so with reasonable fairness.

Quality of Pupils More Important Than Numbers

Measuring agriculture education effectiveness by numbers of pupils participating is apt to lead to some false conclusions. As the boys progress through the courses of the agri-

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ing program. The students in non-vocational agriculture classes may or may not study farm management, but when taught it is without relationship to the farming programs of the students.

The effectiveness of vocational agriculture is made more pronounced because it is organized on local, area, state, and national levels, with coordination provided between all of these levels. Through such organization and coordination, there is provided, among many other things, an opportunity to adequately meet emergencies, exchange worthwhile ideas, bene-

culture department they are going to become fewer in number as the needs of all the boys are not the same. So many pupils are interested in the need for some knowledge of farming from the part-time basis that they are apt to leave the purely vocational courses up to those who plan to make a career of farming. In many schools the upper classes of the agriculture department—the 11th and 12th grades—will not have large numbers. Of those who remain in the agriculture courses throughout their high school career, most have a genuine interest in farming and will be the better boys of the agricultural community. Quality of pupil participation is important when the numbers of boys in the vocational classes begins to decline. Observation of these smaller groups is interesting as so much personal time of the instructor is available for each of the students. In many schools, as in this district, leaders of school organizations come from agriculture department boys. The general student body recognizes the ability of FFA boys in conducting meetings and call these boys to positions of leadership in school activities. When administrators see the agriculture department pupils capa-

fit from the experiences and observations of others, and train as well as use rural leaders. Since non-vocational agriculture has neither organization on all levels, nor provision for coordination among these levels, such opportunities as prevail in vocational agriculture are not available through general agriculture.

If the vocational agriculture training program ever reaches the point where it cannot be readily discerned from that in general agriculture, it would not then justify the support of federal funds. Our task in the years ahead is to maintain the highest of standards in a truly vocational program. □

bly leading other activities, they can be certain that effective leadership training is taking place in the agriculture department. As has been so often noted—the activities of the pupils in a class demonstrate the effectiveness of the teacher. Schools who graduate "quality" boys in agriculture are doing their fair share of agriculture training.

Observation Better Than Report Forms

The use of elaborate report forms to measure teaching can be a time-consuming task of the administrator. It seems far better to use the time consumed in making written reports for "on-the-spot" observations. Actually living with the agriculture program of the school for the year will yield the information necessary for evaluating the success of the program. Notes kept of visits, projects seen, and meetings attended provide a sound basis for a good report. To be a successful teacher one must know his subject and his pupils. Likewise, to effectively supervise the agriculture department of any school, the administrator must be familiar with the department personnel and its organization. □



Cooperative planning between agriculture teachers and administrators—left to right: Bernard Dekay, Admin. Assistant; Donald Sipp, Agriculture Teacher; Kenneth Olcott, Agriculture Teacher; Wm. T. Thomson, Superintendent, Vernon-Verona-Sherrill Schools, New York.



FFA State Convention activities at Vernon-Verona-Sherrill Schools, New York.



E. S. McCarty

Effectiveness of local program depends on quality of . . .

Administrative Leadership In Vo-Ag

EMIL S. McCARTY, Vo-Ag Instructor,
Ringgold, Louisiana.

EDUCATIONAL contributions of vocational agriculture are the result of the atmosphere provided through local administrative efforts. Educational benefits derived in the years ahead will be the outcome of quality secondary school level administration.

Vocational education in agriculture at the secondary school level is under the administration of the local school administrators. Each aspect of the local program is a part of the total educational program of the school. The effectiveness of the local program is dependent upon the quality of leadership provided through and by local administration. It is within the environment created and maintained by local administrators that vocational agriculture makes its greatest educational contributions to the school and community.

The quality of educational leadership provided for vocational agriculture is conditioned by the character of the concepts entertained by the local administrator. If quality leadership is to be provided, the local school administrator must have a functional understanding and a sympathetic appreciation of principles appropriate to the administration of vocational agriculture.

Public secondary school administration of local programs of vocational agriculture is enhanced when the local administrator:

1. Understands the educational implications of the aim and major purposes of vocational agriculture.
2. Maintains a close contact with the program through periodic conferences with the teacher.
3. Provides educational leadership to coordinate the functions of the local program with other activities of the school program.
4. Creates and maintains an environment wherein the teacher may freely confer with administrative and supervisory personnel as to type of program

necessary to comply with existing school policy.

5. Participates in the planning of the local program.
6. Creates and maintains a policy conducive to effective use of local advisory committees for the local department of vocational agriculture.
7. Actively participates in the work of the local advisory committee.
8. Reviews the annual teaching plans with a view to administrative approval.
9. Contributes to the work necessary to develop and maintain an effective long-time program in the school and community.
10. Maintains an atmosphere wherein the teacher participates in guidance activities relative to pupils' attitudes toward other high school subjects.
11. Encourages teacher participation in area and state in-service programs.
12. Understands the educational implications of the Future Farmers of America.
13. Creates and maintains an atmosphere wherein the educational functions of the Future Farmers of America is integrated into the educational program.
14. Encourages students and the teacher to participate in the educational activities on area and state basis.
15. Participates in the planning of an effective program of work for the summer months.
16. Provides supervision of the summer program.
17. Considers the complete program to consist of organized classes of systematic instruction for both in-school and out-of-school groups.
18. Arranges a time schedule for the teacher that permits a complete program.
19. Regards the work of the super-

vised farming program as a culmination of the learning process and provides time during the school day for adequate supervision.

20. Provides educational leadership that is conducive to effective and efficient use of the time allotted for supervisory purposes.
21. Requires an itinerary of all school trips planned as a function of the school program.
22. Accompanies the teacher on supervisory farm visits periodically.
23. Creates an atmosphere conducive to organized classes of systematic instruction for young farmer and adult farmer classes.
24. Places the school facilities at the disposal of out-of-school vocational agriculture groups.
25. Has formal professional education in the administration and/or philosophy of vocational education.
26. Appreciates the specific professional and technical education necessary for the teacher of vocational agriculture.
27. Encourages the teacher to further his professional general education training.
28. Accepts the responsibility of providing for facilities proper to the needs of the department.
29. Accepts the responsibility of providing for materials of instruction proper to the needs of the department.
30. Maintains an atmosphere wherein the faculty understands the nature of the work of the department. □

The Cover Picture

Reviewing the final draft of a cooperative agreement involving plans for improving farm mechanics instruction in vocational agricultural departments throughout the state of Oregon. Shown are, left to right, Jeff Rodgers, Head, Oregon State College Department of Agricultural Engineering; Henry TenPas, Head, Oregon State College Agricultural Education; Wilbur Cooney, Assistant Dean, Oregon State College Department of Agriculture; William R. Morris, Assistant State Supervisor, State Division of Vocational Education; and Leno Christensen, Teacher Trainer in Farm Mechanics, Oregon State College Department of Agricultural Engineering.

What do studies show? - - -

Improving Instruction Through Supervision

JOE P. BAIL, Teacher Education, Cornell University.

INTRODUCTION

SINCE most authorities in the field of education agree that the primary purpose of supervision is the improvement of instruction, this section seems appropriately titled. Supervision, in its broadest sense, is concerned with the improvement of teaching by studying the conditions and factors that surround learning and pupil growth. This should be equally true in agricultural education or in any other area of education in our public schools.

Studies dealing with this phase of agricultural education have been somewhat prosiac in their approach to the problems. This is not to say that there haven't been worthwhile studies made, but rather that they have dealt with some of the more commonplace factors associated with supervision. These would include such areas as use of time by teachers, use of travel, discipline, and activities engaged in by teachers. Studies on methods of supervision, self-supervision, group supervision, and development of leadership in supervision are noticeable by their absence.

This summary of studies on *Improving Instruction Through Supervision* will include only studies reported in the series of bulletins, *Summaries of Studies in Agricultural Education*, Supplements 6, 7, 8, 9, and 10, available through the U.S. Office of Education, department of Health, Education, and Welfare, Washington, D.C.

General Studies on Improving Instruction

Hodges¹ studied the techniques used by high school principals in supervising the instruction in vocational agriculture. He reported that supervision of farming programs of high school students rated as highly useful, although seldom used, by the principal. He suggested further that if principals were better acquainted with this phase of the program that better supervision by the principal should result.

The concept of the role of the teacher of vocational agriculture was

studied by Badran.² He found that as an individual progresses in his agricultural education, he develops gradually from autism to absolutism then to reciprocity. This latter condition is more receptive to the modern concept of supervision where a free exchange of ideas is necessary if improvement of instruction is to take place.

Cook,³ Heiskari,⁴ and McInvale⁵ conducted studies dealing with discipline as it related to the instruction of all-day students in vocational agriculture. Cook found that minor discipline problems far outnumbered the major ones. These problems were apt to occur more often on field trips, in the shop, or in classrooms that were overcrowded. Heiskari asked teachers to rate nine discipline methods in order of their importance. The top three were reported as: (1) keep the student interested, (2) keep the students busy at worthwhile work, and (3) arouse a desire in the student to change his pattern of behavior. McInvale found that teachers in general used the same methods to handle discipline problems, although older teachers were more apt to ignore minor infractions than younger teachers.

Witmer⁶ studied the duties and functions of the area advisor in Pennsylvania. The study showed that 60 per cent of the area advisor's time was spent in supervision. A major part of this time was in connection with all-day classes. It is assumed that this time was directed toward supervision of instruction since 26 per cent of the remaining time was devoted to the administrative work. The average number of teachers served by the area advisor was eleven.

Mitchell⁷ studied the duties and responsibilities of supervisors in Texas. Among other duties he listed the improvement of instruction as a major function of supervisors of vocational agriculture in Texas.

Dougan⁸ found that teachers in Ohio felt that supervisors should spend a half day in departments, should observe a minimum of two periods of classroom instruction, noti-

fy teachers in advance of visits, and follow-up with a conference with teachers if they were to be most effective in improving instruction.

Foster⁹ found that supervisors in New York State emphasized the objective of "to teach agriculture effectively" most frequently in their visits to department of vocational agriculture. This item ranked at the top in two of three years selected for study during a 10-year period, and near the top in the other year. Other points stressed were the organizing of out-of-school groups, improving facilities, and improvement of supervised farm practice. Woodhull¹⁰ reported on the attitudes of teachers and their supervisors toward the future development of the program of vocational education in agriculture. He found that there were significant differences in attitude toward the programs of instruction among teacher, supervisors, and local administrators. However, teachers and their supervisors in vocational agriculture in general had similar attitudes toward the program of instruction which indicates a desirable relationship for the improvement of instruction.

Use of Time

The use of time by teachers of agriculture has been studied in several states. These studies would seem to have implications for the area of supervision of students' farming programs and related activities. Purkey,¹¹ in Ohio, found that teachers averaged 56 hours per week during school months and 44 hours per week in the summer. The high school program occupied 65 per cent of the total time of teachers. It was suggested that school administrators should evaluate the time used by teachers in the various phases of the program as a means of improving supervision. Zimmerman¹² followed this up by analyzing studies made in several states on use of time for professional activities. He reported that the average teacher in these studies spent 57 hours per week on the job during the school year. He recommended that certain phases of the program should be turned over to other teachers of agriculture, that less custodial and maintenance work be done by teachers, and that office work be assigned to clerical staffs. This would release the teacher for more productive work in teaching and in preparation for teaching.

Tolbert¹³ made a similar study in Georgia. He found that teachers in

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single-teacher departments averaged 56 hours per week in professional activities. Forty per cent of the time was spent with all-day students with supervisory visits being made on two-thirds of work days. The findings of the study were recommended as being useful to supervisors and teacher trainers in helping teachers plan use of professional time.

The activities in which teachers engaged were studied by Quimby in Oklahoma.¹⁴ He found that in addition to regular classroom activities teachers participated in many school, community, and civic organizations. They also spent time participating in fairs, shows, judging contests, field trips, and personal service work, largely of a veterinary nature. Recommendations for the use of time for this particular group of teachers were made based on the findings.

Simmons¹⁵ found that teachers in Nebraska spent 59 per cent of their time outside of professional activities in non-agricultural and community activities. The 41 per cent of time spent with school-affiliated agricultural organizations was not deemed sufficient to carry out a desirable program of vocational agriculture.

Gibson¹⁶ reported on the same topic but with reference to an individual teacher. He kept records on how he used his professional time and then attempted to self-evaluate his work. He recommended that each teacher should make a time-check on his work-week with the objective of improving efficiency. He also stated that a systematic evaluation by the teacher of his activities should take place at regular intervals as an aid to replanning the program of the department.

An evaluation of teachers' use of time was conducted by Denham¹⁷ in Arizona. Teachers spent 61 hours per week during the school term as compared to 50 hours per week during the summer in carrying out their duties as teachers of agriculture. It was felt that additional time should be devoted to studying the community, program planning, advisory council work, and public relations. Less time should be spent on teaching non-agricultural classes, study halls, advising organizations other than FFA, athletic help, and preparation of reports. Little common agreement was expressed in regard to time

spent on FFA activities out of school, young farmer classes, adult farmer classes, and school farm and test plots.

Darrow¹⁸ reported that experienced teachers felt that a desirable teaching load was from 23-51 high school students plus 1-to-3 classes for organized out-of-school groups with enrollments of up to 16 each. The instruction, supervision, and preparation for instruction should require over 60 hours per week, plus participation in agricultural, civic, and educational activities of the community.

Use of Travel

Although studies in this area might be thought of as administrative in nature, it also follows that they are related to the improvement of instruction. On-the-farm instruction, in addition to being of extreme importance in itself, ought also to contribute to the improvement of instruction generally.

Taubert,¹⁹ in West Virginia, found that 41 per cent of travel funds were used in the supervision of farming programs of all-day, young, and adult farmers. The next largest item was 23 per cent in connection with the Future Farmers of America. In a selected area in Kentucky, Ball²⁰ found that 56 per cent of travel funds was used for supervisory visits. His conclusion was that even more time and travel money was necessary to do an effective job of on-farm supervision and teaching.

In Virginia, Bryant²¹ reported that 38 per cent of total travel by a teacher was in connection with his official work. He further found that 65 per cent of teachers did not use all their travel allowance, whereas 21 per cent needed additional travel funds. Boram and Johnson²² studied the travel of teachers of agriculture in Missouri. They found that more funds were expended in unorganized school districts than in consolidated districts. They suggested that it might be more desirable to have "open end" type of contract regarding mileage rather than a set amount if the teacher was conscientious in his supervision of students and organized groups.

Summary

This summary of research in the area of *Improving Instruction Through Supervision* provides much food for thought. It raises questions pertaining to the *methods* of supervision, the *how* of supervision, and the *why* of supervision. Among these might be

the following: What is the role of the local administrator in improving instruction through supervision? How can supervisors of vocational agriculture contribute more effectively to improving instruction? Should individual or group supervision be predominant, or a combination of both? How can self-supervision result in the improvement of instruction? What research methods may be used to advantage in measuring the results of supervision toward the improvement of instruction?

In the final analysis, it seems that good communication between people may be the key to desirable changes in instruction. This implies that a free interchange of ideas between teachers and their supervisors is necessary in a democratic atmosphere. No longer do we accept the theory that supervision must be autocratic and from the top down. Only through self-evaluation and mutual respect can we expect supervision to result in the improvement of instruction and consequent improvement in pupil learning and growth.

It seems appropriate to call attention to some recent developments in the area of supervision. Among these are the increasing trend for staff members in agricultural education on the state level to serve as consultants rather than as supervisors. This helps to provide an atmosphere where teachers, local administrators, and state staff members may sit down together and study the problems in a given situation. A further step is the provision for supervisory visits to be made at the invitation of local school officials rather than scheduled visits from the state level. Still another is the increasing attention being given to in-service training on a group basis. Workshops and conferences planned and initiated by teachers themselves have resulted in much improved instruction. This is true leadership for the improvement of instruction. □

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In-Service Education - - -

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concerning the proper use of an organized advisory committee. One respondent points out that a functional committee is more than a group of men meeting four times each year.

4. Ability to organize and conduct young farmer and adult farmer classes.

Specific help in conducting young farmer and adult farmer programs in the local community is needed.

Teachers point out that the major part of pre-service training in education is for the day school groups. They add that on the job they encounter conflicting directives. They read of procedures that are successful in a community, and then discover that similar practices fail under local conditions.

5. Ability in counseling and guidance of students.

Instruction in techniques of counseling and guidance is needed. Teachers are continuously being questioned by parents, boys and rural young people concerning "what to". Teachers indicate that they know the purpose of vocational agriculture is to train present and prospective farmers for proficiency in farming, but that they have had practically no training in how to help young people make vocational decisions. These teachers add that with so little training in guidance it is embarrassing and disturbing to be put in a position of assisting young lads make decisions of such grave importance.

6. Ability to improve time management and work efficiency.

Teachers point out that as a program becomes larger, additional staff members are added in teacher-education institutions and in state offices of education. But, they continue, the local Vo-Ag teacher adds and adds to his program, and still works alone. Teachers find considerable research in the area of work simplification around the farm-

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Is it science and mathematics and vocational agriculture or - - -

Science and Mathematics vs. Vocational Agriculture?

DAVID HARTZOG, Teacher Education, State College of Washington.

FOR some months now in the professional—and more recently in the popular—press there has been considerable agitation for a sharp increase in the amount of mathematics and science training offered in schools. Since the rise of the Russian moons, Sputnik I and Sputnik II, this rumble has become a crescendo. Prominent politicians and obscure professors have almost been tumbling over one another to get into the act and point the finger of doom at our educational system. College professors—even professors of agriculture—have been pointing at vocational agriculture as an influence which prevents “adequate” preparation of students for success in college. With a conviction and enthusiasm worthy of better things, these research oriented people have jumped to this conclusion without evaluating the amassed evidence of research on the problem. This is concisely expressed in an article by Mr. Walton in the March 1957 issue of *Agricultural Education Magazine* entitled “Does Vo-Ag Prepare for College?” He says:

“The great body of evidence in the United States concerning the quality of college performance on the part of vocational credit students as compared to non-vocational credit students is repetitious with such phrases as ‘no significant differences,’ ‘superior in agriculture,’ ‘equal in other fields,’ ‘vocational agriculture is as satisfactory as other curricula for college preparation,’ ‘no significant differences,’ ‘former students of vocational agriculture excelled by one third of a mark.’”

One wonders at the naivete of the educational spokesmen who ignore this evidence.

Are We Playing Checkers with Course Titles?

Reports indicate that Russian students have as much as seven years of mathematics, five years of physics, and three years of chemistry at the end of what compares to our secondary schooling; and that as little as 17 percent of our secondary school time is devoted to serious study of

mathematics and science. Secondary school people are being urged from all quarters to increase requirements in mathematics and science, and in the crowded school day something will have to give. We often have a tendency to revise courses of study and curricula by playing checkers with course titles without looking beneath the title to determine the nature of the understandings, skills, abilities and attitudes which are intended to be the outcomes of the course.

We need only a casual knowledge of educational psychology to realize that out-of-context scientific generalizations, which are memorized by the student, are relatively valueless. They do not make sense, and therefore are defined by some critical thinkers as nonsense. In too many cases our students memorize the facts, laws and principles involved in a subject without making the meaningful associations that lead to understanding. The verbal memorization of an isolated law of nature, though it may be the essence of truth itself, unless understood in terms of meaningful relationships has about as much value as a concrete fly-swatter. To increase this kind of education might only compound the confusion. Fortunately, professorial thinking on this general problem has not all been shallow. In speaking of engineering education, Professor John Wilbur of MIT has this to say:

“There would seem to be an advantage in teaching science and engineering in parallel with each other rather than following the time-honored custom of completing the first before the second is begun. If they were assimilated simultaneously, exact thinking and judgment could develop at the same time, and there could be full inter-play between the two—I am more interested in the co-requisites of mental developments than in the pre-requisites of subject matter. Too much preparation can stifle even the genius—or perhaps—especially the genius.”

Science & Mathematics and Vocational Agriculture

Where then does vocational agriculture stand in this controversy? The title of this article implies that vocational agriculture stands at one side and is opposed to science and mathematics. If we look beneath the course titles perhaps we shall find that they are, in a sense, the same thing. Vocational agriculture and farm mechanics deal with and utilize the principles of science, biology, chemistry, physics and mathematics in their applications. Furthermore, vocational agriculture has the important advantage that its starting point is with phenomena that are familiar and important to the learner. The student of vocational agriculture has the opportunity to learn scientific and mathematic principles in the context of familiar and, to him, important problems. This makes use of the vital psychological principle of association.

What do we, as individual teachers, need to do to strengthen our program in relation to these implications? First, let us pay particular attention to the application of scientific principles that are demonstrated in our classrooms and in our farm shops. Let us evaluate each teaching unit in vocational agriculture for the opportunity to demonstrate in meaningful terms the underlying scientific law, principle or mathematic procedure which is involved. For example, the text book definition of osmosis, “the exchange of a thin liquid for a thicker liquid through a thin membrane,” is a relatively sterile piece of information. How much more meaningful is the wilted plant brought about by a too strong soil solution, especially when amplified by examples of “fertilizer burn”; and how much more meaningful the recovery of wilted plants when the strength of soil solution is lowered by the addition of rainfall or irrigation water. Nor is the farm mechanics shop devoid of practical and excellent opportunities to teach science. Let us consider for a moment the very simple principle of an arti-

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C. J. King

We always need to be ready for - - -

Fighting Fires on Farms

C. J. KING, Teacher of Vocational Agriculture,
Dayton, Pennsylvania.

THE National Board of Fire Underwriters reports that 12,000 persons lost their lives in fires in 1955, and that the cost of fires for the same period amounted to five billion dollars. To these statistics must be added the cost of the days of work lost by those injured and the suffering of others maimed for life. While the causes of these fires were many and varied, the three leading causes were careless smoking, improper use of electricity, and careless or improper use of stoves and heating equipment.

Teachers of agriculture and their FFA chapters can well afford to spend some program time on fire prevention. An excellent outline to follow may be found in Bulletin 399, "A Program of Fire Prevention in Schools," issued by the Pennsylvania Department of Public Instruction. The section on farm fires, prepared with the assistance of Harry Knox of the Bellwood-Antis schools, should prove very helpful. It is my hope to point out some ways in which teachers of agriculture and their FFA chapter members may be of assistance in the program of fire prevention and control in rural areas, and to discuss some topics from the viewpoint of fire department personnel.

Farm Ponds a Good Source of Water - - - If

The matter of water supply is a critical factor in the control of fires on farms and in rural areas. It is not at all uncommon these days to find rural fire departments equipped with pumpers rated at 750 to 1,000 gallons per minute. To attempt to supply such a pumper from the average well is sheer folly. Probably the best source of water for such a pumper is a stream or farm pond. Let us consider some important factors of farm pond construction which affect its use as a fire control measure.

As a rule a fire company will carry a maximum of four sections of hard suction hose, each section ten feet in length. More commonly they will

carry two sections or in some cases three. A pumper can force water through a discharge line for great distances, but the pond must be constructed and approached in such a manner that the pumper can be placed near enough to the water source so that the suction hose carried will reach from the truck into the water supply. A second point of importance to remember is that the pumper should not operate at a *vertical lift greater than twelve feet*. While a pumper in good condition can lift water a vertical distance in excess of twelve feet, to do so means that too much power is required to lift the water and not enough is left to overcome friction in the hose and deliver good working pressure at the nozzle. For example, a common hose layout at a farm fire might be 900 feet of 2½-inch hose equipped with a 1½-inch nozzle. Such a hose layout would require 203 pounds pressure at the engine to deliver 50 pounds working pressure at the nozzle. The difference between nozzle pressure and engine pressure represents the friction loss of water flowing against the seemingly smooth rubber lining of the hose.

In dealing with the construction of a suitable roadway to and from the farm pond, it is important to keep in mind that a fire truck is just naturally a large and heavy piece of equipment. The average 750 gallon pumper will gross 15,000 pounds empty. Add to this the weight of 1400 feet of 2½-inch hose, 600 feet of 1½-inch hose, from 150 to 500 gallons of water in the booster tank, nozzles, light plants, two-way radio, (and possibly twelve men) and you are easily dealing with a vehicle grossing from 20,000 to 25,000 pounds. The fact that the pumper has an overall length of twenty-five feet or more doesn't help it to make sharp turns among trees to reach a pond located in the edge of a woodland area. Try to plan the location of the pond in such a way with respect to farm buildings that hose can be laid by one burning build-

ing to protect another building not yet on fire.

Ask Fire Dept. to Make Test Run

If you have recently constructed a farm pond, have you asked your local fire chief to bring his men out and make pumping tests from the pond? Most volunteer fire departments such as are found in rural areas have regular practice nights and will be pleased to come out and check the possibilities of your farm pond as a water supply source for fire protection. At the same time they can gain much helpful information as to special fire hazards on your farm and the distances between buildings. Such information may be the difference between losing or saving a building in the event of a fire.

A final note I wish to make about farm ponds is the use of a brine barrel during the winter months. Every farm pond owner should use such a brine barrel,—a wooden barrel filled with a strong salt solution and set into the pond at the edge. This salt solution will not freeze. In the event of a fire, firemen need only smash the barrel with a blow of the axe and the opening into the pond for the suction hose is available. This requires far less time than would be needed to chop a hole of sufficient size through the ice.

Report Fires Carefully

Another serious "bugaboo" in rural fire protection is the reporting of the fire itself. If you are unfortunate and have a fire, try to keep as calm as possible when reporting the fire and give all information needed. Essential information includes such items as: your name, the location of the fire, and the nature of the fire (such as a barn, dwelling or grass fire). If your farm has been known in the community by a certain name such as the "Orchard Farm" or the "John Jones Farm," give that name when reporting the fire. A fire chief of my acquaintance in a neighboring community had an unfortunate experience with a rural fire alarm a short time ago. A lady called in to report a fire and when the chief (in trying to determine what section the call came from) asked, "Where is the fire?" she promptly replied, "In the kitchen"—and hung up! It is a good idea for anyone living in a country area, in the event of a fire, to send a person out to the main highway to direct the fire equipment to the farm.

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Science and Math - - -

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ficial atmosphere. We find it in the de-oxidized atmosphere that exists in a forge fire and prevents the formation of scale; in the shielding gasses produced by the volatilization of the flux in shielded arc welding. We provide for it specifically in the inert gas arc welding process and again provide for it, incidentally, in the oxy-acetylene welding process where the carbon dioxide and water vapor—products of combustion—form a protective shield around the molten pool of metal. Yet another example—in the teaching of ignition trouble-shooting on tractor engines, the basic laws of magnetism and inducted currents are involved. We should point out the application of Ohm's Law in determining coil voltage and point it out again in the operation of the alternating current transformer which brings electric current to our farm. Taken out-of-context, being able to recite Ohm's Law is small comfort to the farmer with the stalled tractor, or for that matter, to the scientist with a stalled car.

If we teach vocational agriculture in this manner, and if we look beneath the course titles, we find that the high school student with four years of vocational agriculture, a year of biology, a year of chemistry and a year of physics has seven years of science—not to mention the mathematics and the economics that are learned in a meaningful way rather than a forest of disconnected generalizations through which the student must grope.

Russian Dust Bowl in the Making?

A recent issue of *Newsweek* quotes Nobel prize winner, Hermann J. Muller, one-time senior geneticist at the Institute for Genetics at Moscow:

"The shame of Russian sciences—biology. Russia can't be doing the basic refined work the West is doing as long as Lysenko's weird theories have currency."

This is further borne out by any student who cares to inform himself that in the past four years Russia has plowed up over 60 million acres of mostly marginal agricultural land in a vain attempt to provide ample food supplies for her tremendous number of people. On this land some 12 million young people—mostly from the cities and without benefit of agricultural education—have been expected to produce successful crops. Even

the Russian press admits the results have been disappointing. Informed agriculturalists and geographers have predicted that this may be the world's greatest dust bowl in the making. This is an example that refutes the Lysenko philosophy that Nature can be compelled. If the Russian system of education is so admirable, to what do we attribute this colossal blunder? The rigorous, lengthy education of Russian youth in science and mathematics has not prevented what could amount to a national catastrophe. Let us consider for a moment the possibility that concentration on pure science and mathematics learned out-of-context of its environment and applications might be a contributing factor. Should we stand by and let unthinking people detract from the quality and quantity of our excellent agricultural education which has produced an agricultural technology that is the marvel of the world? To do so compares to throwing out the baby with the bath water.

Should All Students Follow Same Program?

To move to increase, by perhaps as much as several fold, the requirements in mathematics and science in our public schools seems to be based on the assumption that what is good for the relatively few extremely high caliber and well-trained scientists needed is also good for all of the students of all of the people. This assumption is open to challenge and could be another road to "educational wastelands." This move seems ill-advised when one looks at the total figures and realizes that it is unrealistic to expect more than 40 percent of our students to ever go on to college.

Let Us Remember to Teach the "Why"

The job for vocational agriculture workers is to keep our heads in this controversy, to defend our position and to strengthen our position by pointing out the amount of science and mathematics that we do teach. Perhaps we should evaluate our courses and emphasize the underlying scientific and mathematic principles with which we deal. We should be alert to opportunities to make applications of the laws of Nature. We might cooperate with the teachers of mathematics and science in our schools. We might deliberately select our lessons and demonstrations for the importance and breadth of applications of the principles involved. By

so doing, we can lend more meaning to the mathematics and science courses taught by our colleagues in those teaching fields and thus strengthen the whole educational picture by surrounding the student with an environment of learning that has real meaning for him. In so doing, we can continue to do the excellent job of preparing America's farmers. Let us remember to not be satisfied with teaching "what" and "how"—let us also teach the "why." □

Fighting Fires - - -

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An excellent activity under the Community Service phase of the FFA Program of Work is to assist your local fire department in the mapping and location of fire protection areas. The teacher of agriculture and his FFA boys, because of their intimate knowledge of the farms and their farming area, are particularly well suited to assemble this information. The increasing use of two-way fire service radio makes a fire survey map almost a necessity. In the case of rural fires, the radio will make it possible to keep in close touch with the equipment. Trucks may be dispatched to a fire at once and directions given as to where to turn off the main highway, as well as other facts concerning the fire, while the truck is making the run. It is well to remember that the first five minutes of a fire are more important than the next five hours.

What Is Your Answer to These Questions?

If you want to find out whether you need to devote a little program time to farm fire prevention and control, see what answers your FFA boys can make to the following questions:

1. Is the electrical equipment on my home farm underwriter approved?
2. Are the electric service lines on my farm protected by the proper fuse sizes, or do I commonly overload electric circuits or use pennies behind the fuses?
3. Do I permit smoking in the barn and other farm buildings on my farm?
4. Do I always store flammable liquids in approved containers?
5. Do I clean farm equipment with safe solvents or do I take a chance and use gasoline?
6. Is my tractor exhaust equipped

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Ben Hylkema

An administration problem of the teacher - - -

Budgeting Teachers' Time

BEN HYLKEMA, Vo-Ag Instructor, Wausau, Wisconsin.

A STATEMENT was made recently by a large automobile industry spokesman that the evolution of the automobile from a simple to a complex structure has required a vast number of engineers to spend their entire time trying to keep pace with the demands for change and progress.

If we would look back on the history of vocational agriculture in our nation, we would probably find that the evolutionary changes in vocational agriculture also demanded a tremendous amount of time from agricultural educational personnel since about 1913. In this case, the complex structure must be carried by the individual. Many activities, of course, have been added to the agriculture teacher's program in the last 35 years. The origin of the FFA Chapter alone has added five national judging contests, numerous Future Farmer foundation awards, plus the many state and local activities which have become a major activity by themselves.

The fact that farming has become a highly skilled, complex business that requires a versatile training on the part of the farmer or prospective farmer has almost placed the teacher in a "jack of all trades" category requiring ever increasing demands on his time. The problem often lies in how thin one can spread himself and yet be an effective teacher. Probably one of the best justifications for continuing vocational agriculture on a twelve months' basis is that the many activities of a properly executed program requires the teacher to be on the job nearly every day of the year.

How Time Should Be Used

Many writers have attempted to classify duties and activities of a vocational agriculture instructor in order to emphasize what jobs are important and should require more time to do. General concensus is that the teacher's chief duty is toward the development of good all day, young farmer and adult farmer groups with emphasis on teaching and developing farm pro-

grams. It was generally felt that the teacher's over load many times comes from the less important or "side-show" activities which are very time consuming. Examples of these are coaching FFA basketball, being the school "handyman," and taking part in non-agriculture school activity.

The amount of time a teacher should devote to the many activities of his vocational agriculture work lies, of course, in the teacher himself. However, the development of a good program of agricultural education means that the greater number of hours must be devoted to the teaching and training of the all-day student, the young farmer and the adult farmer. If the instructor can show 50 hours per week of work centered around these three groups, plus the development of a good farm program for each student for summer activity, he need not worry about public or administrative criticism as to how he spends his time. For a matter of fact, keeping a filed budget of his time may increase the respect for the job he is doing in the community.

Study Shows Need for Better Time Use

Dr. Leo Knuti, head of the agriculture education department of the Montana State College, summarized the weekly use of time by 377 vocational agriculture teachers in the eight western states showing activities and range in hours and per cent of time for all teachers. Average weekly total hours spent by the teachers during the school year were 57.83. The major portion of this time (21.17) was spent in teaching high school classes, which seems reasonable. However, an average of 5.74 hours were spent by instructors in office work, work with Institutional on the Farm Training, attending professional meetings and rendering help to school athletics. Other work done by teachers which was not related to agriculture, but time consuming, included class or organization advisor, non-agriculture class preparation and teaching, and

study hall or homeroom duties. This amounted to 4.17 hours. Surprisingly, only about 2 hours in the week were spent on young farmer and adult farmer education.

If any changes are to be made in the school year time schedule it should, of course, be made in the direction of all day, young farmer and adult farmer education if the teacher wishes to promote a well-rounded educational program and adhere to the provisions of the original Smith-Hughes Act. A revision of time would eliminate the teaching of non-agriculture classes. This may seem a difficult task, especially when the all-day enrollment is low, but a well-organized agricultural education program (including time schedules) may be the key to eliminating non-agriculture classes. It would, of course, mean selling the administration and community on the merits and values of agricultural education.

Dr. Knuti's table showed an average of 50.57 hours spent per week in summer month activities by agriculture instructors. Time devoted to all day students constituted an average of 17.98 hours, the largest portion of the hours spent. But 9.14 hours were spent in department improvement which means that over one day's work each week was consumed by working in the classroom or shop—probably in preparation for the next year's teaching assignments. Program planning and reports added another 5.65 hours to the weekly work schedule. Again, a low number of hours (3.28) were devoted to young farmer and adult farmer education.

Again, a rebudgeting of the time schedule may save the teacher working hours and yet let him devote more hours to young farmer and adult farmer education. If he could reduce the time spent in departmental improvement and program planning and reports to 7 hours rather than the total of 14.7 hours, he could devote 3 more hours to his young farmer and adult farmer program and yet reduce his working week to approximately 45 hours. I suppose the old saying "figures don't lie but liars figure" could be mentioned here but in the same token this type of schedule may look more justifiable to the school administrator.

Securing Better Use of Time

The reduction of time spent by the instructor on the job may be easily

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Importance of the Better Half

One state is doing something about it while preparing teachers of Vo-Ag.

JARRELL GRAY, Teacher Education, Texas A. & M. College



Jarrell Gray

Mr. E. V. Walton, head, Department of Agricultural Education. Such a club has been made possible because of the many Agricultural Education majors who are married.

In order to keep informed of their husband's training, wives are encouraged to attend bi-monthly meetings of the club which are held on the campus. An attempt is made to plan programs that will explain the nature of the agriculture teacher's work to the club members and thus prepare them for their lives when they become an integral part of a community. Mr. Walton believes that the organization of such a club enables the wives to become better equipped to assume their responsibilities when their husbands graduate and became teachers of vocational agriculture. The wives are also given an opportunity to meet socially and talk with others who share similar interests and problems.

BELIEVING that wives play a major role in the success of a vocational agriculture teacher's life, an effort has been made to have an active Ag-Ed Wives Club at the A. & M. College of Texas by

How It Started

The foundation for the present club was made in 1948 when Mr. Walton began holding clinics for wives of the students. These clinics were started because of the need felt by Mr. Walton and his desire to help students enjoy more successful careers in teaching agriculture. Many of the students at that time were veterans who were married to city girls. Some had foreign wives. Even the small-town girls didn't understand the nature of an agriculture teacher's work. These clinics were held on an annual basis and the ways in which wives could help their husband professionally were emphasized. A few of the problems discussed by Mr. Walton in these clinics were:

1. The value of a wife's visiting with the rural people in her community
2. Importance of being an active member of the PTA.
3. Significance of refraining from becoming a member of a "clique" group.
4. Budgeting and family finance on an agriculture teacher's salary.
5. Ways to help with reports that have to be made by the agriculture teacher.



Members of the Ag-Ed Wives Club open their meeting by reading in unison the club's Creed.

The clinics were held successively until 1955 when an Ag-Ed Wives Club was organized. Its sponsor was and still is the A. & M. Collegiate FFA Chapter. The club has grown continuously and at present there are approximately 50 members. Wives of the faculty serve as associate members and help with the club work only when called upon.

Organization

In 1956, members of the club felt a need for further organization. A committee was appointed for the purpose of writing a constitution.¹ Another committee wrote the club's creed and designed an emblem.

Creed—

I am the wife of an Agricultural Education major and as such believe that I contribute much to the success of my husband in his chosen professional field.

I believe in the home and family life of America and will dedicate my life to the development and progress of it. I will assist my husband, family, and friends in estab-

¹ A copy of the constitution may be obtained from the Department of Agricultural Education, A. & M. College of Texas, College Station, Texas.

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The social hour follows each business meeting and gives time for getting acquainted. Arranging for the social hour are (left to right) Paula King, Louise McCoy, and Loretta Hedrick.



Officers of Ag-Ed Wives Club at A & M College of Texas are (seated L to R) Doris Perser, Reporter, Paula King, President. (Standing L to R) Frances McCulley, Vice President, Wilma Hackfeld, Parliamentarian.

Importance of - - -

(Continued from page 188)

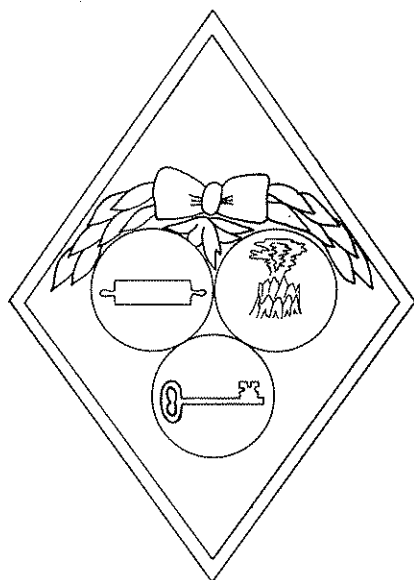
lishing and maintaining the highest standards of citizenship in our community, state, and nation.

I will help my husband to grow in his profession by understanding his work and assisting him whenever possible. Together we will work for the advancement of Agricultural Education in our community, state, and nation.

As a member of a community I will realize my position and participate willingly in school, civic, and church affairs.

I will live a happy life so that my family and friends will be encouraged to create for themselves a happy future.

Emblem



The emblem, which was designed by the Ag-Ed Wives Club, has the following symbolic meaning:

- DiamondStrength
- Three Circles ...Light, Truth, Hope
- LaurelFriendship
- BowTies of Friendship
- Rolling PinDuty
- FiresideHome
- KeyKnowledge

Colors, Constitution, and Certificate—The club colors are green, which represents hope, and white, which represents light and truth. These are represented symbolically in the emblem.

The club flower is the white rose.

The constitution, creed, and emblem have been put together into a booklet designed and made by one of the members.

One of the most outstanding activities of the club is the Graduation

Exercise which is held at the close of each semester. At this time the wives of the graduating seniors are honored and awarded a PHT (Putting Hubby Through) Degree. Mr. Walton confers these degrees.

The citation on the degrees was written by Mr. Walton and is as follows:

The Agricultural Education Department of Texas A. & M. College Certifies that

Having patiently listened to the woes and troubles of her Husband while enrolled as a student in Agricultural Education;

And whereas, she has given him aid, assistance and encouragement;

And whereas, she has washed thousands of dishes and laundered his shirts;

And whereas, she has conserved his money by shopping frugally and foregoing expensive hats and gowns;

And whereas, she has calmed his troubled brow and courageously listened to many a night study session;

Therefore, she is duly declared a Wife of Merit and Worth and is duly awarded this diploma in token thereof;

Given at College Station this...day of.....

Head, Agricultural Education Dept.

President, Agri. Ed. Wives Club

The feeling of satisfaction which is reflected by the wives who have graduated out of the club, and the enjoyment which is apparent among the present members is proof that this is a highly successful activity. □

Budgeting - - -

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done on paper but it may be a difficult task in a workable sense, especially for the teacher who is carrying a heavy student load. However, most teachers can do some practical revising through: (1) studying and evaluating their present time use; (2) rebudgeting their time to fit a better schedule; and (3) doing a better job in management and systematic planning.

A presentation of an itemized time budget of 50 hours a week spent on

vocational agriculture duties may look very logical to the administrator. Most administrators will not question the program of the agriculture instructor if the instructor can account for his hours spent on the job he was hired to do. That job is the training of prospective farmers and practicing farmers, the training of rural youth for leadership which entails the many FFA activities, the teaching of farm skills and improvements, and the developing of good farm programs of his students. □

In-Service Education - - -

(Continued from page 183)

stead, but are able to locate very little material on time management for the teacher.

In-Service Program Evaluated

In the Nebraska study, teachers of vocational agriculture were asked to evaluate the various phases of the in-service program provided by the University of Nebraska. Point values of five, three, and one were assigned to the responses of "much value," "some value," and "little value."

The various phases of the in-service program, ranked in descending order according to the mean of the total point value of responses, are as follows:

1. Workshops were rated as the most valuable phase of the Nebraska in-service program provided for teachers of vocational agriculture. However, not all workshops were ranked the same. Work pertaining to farm tractors rated first; farm machinery, second; teaching methods, third; and agricultural subject matter, fourth.
2. Publications from the Nebraska College of Agriculture rated second as a phase of in-service education with this group of teachers. The most valuable publications were circulars and newsletters from the Department of Vocational Education, Experiment Station and Extension bulletins, and subject matter newsletters.
3. "Special Days," sponsored by the College of Agriculture, was the third most valuable in-service program provided by the University of Nebraska for agricultural teachers.
4. Visits to teachers was the fourth ranking in-service activity. Visits

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THEMES FOR VOLUME 31 OF THE MAGAZINE

- July – LOCAL, STATE AND NATIONAL RELATIONSHIPS IN AGRICULTURAL EDUCATION – national and state policies for agricultural education; who makes national policies for agricultural education; decisions which are left for the state level; decisions which are left for the local level; how policy changes can be initiated; working relationships among the local, state and national levels in agricultural education.
- August – AGRICULTURAL EDUCATION IN THE YEARS AHEAD – changes foreseen as a result of changing technology, population shifts, and changing educational needs of youth and adults; growth of multiple teacher departments; changing emphasis within the present program; the role of vocational education in agriculture in a complete program of agricultural education; effect of changing farming patterns.
- September – DEVELOPING BROAD FARMING PROGRAMS – developing broad farming programs through the use of improvement activities, supplementary practices, and placement for farm experience; four-year planning of farming programs; parental involvement in planning farming programs; supervision of farming programs; evaluation of farming programs.
- October – STATE AND NATIONAL POLICIES FOR ADULT EDUCATION IN AGRICULTURE – effect of state and national policies on expansion of adult education in agriculture; use of public funds for adult education; preparation of teachers for adult work; supervisory assistance for teachers of adults; use of special teachers for adult classes; evaluation of adult education programs.
- November – IMPROVING TECHNIQUES OF INSTRUCTION – use of audio-visual aids, field trips, and community resources; selection and use of reference materials; individual and small group techniques; motivation; classroom management; evaluation of teaching.
- December – SCHOOL-COMMUNITY RELATIONSHIPS – public relations activities; use of community resources; citizen participation in determination of policies; relationships with other community agencies; evaluation.
- January – PLANNING THE FARM MECHANICS PROGRAM – determining areas of instruction; time needed for farm mechanics; safety; planning for teaching; place of farm mechanics in farming programs; organization of the farm mechanics program; evaluation.
- February – PROFESSIONAL IMPROVEMENT – professional reading; problems of beginning teachers; professional organizations; planning for graduate work; keeping up-to-date; retirement systems; tenure; self-evaluation.
- March – FFA ACTIVITIES AS PREPARATION FOR LEADERSHIP – leadership activities in all phases of FFA programs of work; how FFA helps prepare members for participation in adult organizations as members and officers; effect of FFA on leadership activities of members outside the FFA organization.
- April – RESOURCES FOR GUIDANCE IN THE VOCATIONAL AGRICULTURE PROGRAM – cumulative records; follow-up studies; educational and occupational information; community resources – physical and human; school guidance personnel and program; evaluation.
- May – THE SUMMER PROGRAM – professional improvement; preparation and organization of facilities for the coming year; program planning; on-farm-instruction; reporting activities; evaluation.
- June – EVALUATING THE VOCATIONAL AGRICULTURE PROGRAM – techniques and procedures for evaluation; use of advisory groups in evaluation; student participation in evaluation; use of results of evaluation in planning.

The above list of themes for Volume 31 of *The Agricultural Education Magazine* is announced at this time to help you plan for contributing articles for publication as well as to help you in planning for more effective use of *The Magazine*. You are urged to contribute toward a more complete discussion of one or more of the problems listed or implied in the various themes. The brief explanatory statement under each of the themes is intended to indicate some of the directions in which the theme might lead and is not meant to limit your interpretation of the theme. Pictures to illustrate your ideas or accounts of experience are always welcome so long as they are clear and to

the point. Remember that articles must be submitted three months in advance of the publication date in order to be published in a particular issue.

Other features of *The Magazine* to be continued in Volume 31 to the extent possible will be the *Book Review* section, the page for *Stories in Pictures*, space for *Tips that Work*, *News and Views of the Profession*, and the section for reporting professional and instructional aids being developed and used in various states. □

Fighting Fires - - -

(Continued from page 186)
with a spark arrester?

7. Does every member of my family know what to do in the event of a fire in our home, particularly in the event of a fire at night?
8. Do I know exactly what to do to report a fire in my home community?
9. Do I have a good fire extinguisher on my home farm and do I know how to use it properly?
10. Do I *always* shut off the tractor motor when filling the tank with gas or do I get careless and let it run when I'm in a hurry?

Remember, fire is no respecter of persons. It *could* happen to you!

Note: C. J. King is 1st Lieutenant, senior pumper driver and radio supervisor of Dayton District Volunteer Department. □

In-Service Education - - -

(Continued from page 189)

- to first-year teachers by staff members from the Department of Vocational Education were rated as the most valuable visits.
5. On-campus conferences with former instructors and subject matter specialists rated fifth in value as in-service training.
 6. Graduate courses were rated in sixth place as a means of in-service training. Courses in vocational education were rated slightly higher than courses in technical agriculture.

In summary, it appears that teachers of vocational agriculture in Nebraska value in-service education. They feel that theory and practice can be brought together through such a program. They believe that cooperative planning will aid in designing a program that will make teachers more effective. □

News and Views of the Profession

Bail Joins Cornell Staff



Joe P. Bail

JOE P. BAIL, formerly Associate Professor of Agricultural Education at West Virginia University, has joined the staff of the Agricultural Education Division, Rural Education Department of Cornell University, as of June 1, 1957.

Bail will work in the area of Instructional Materials and Services for teachers of Agriculture.

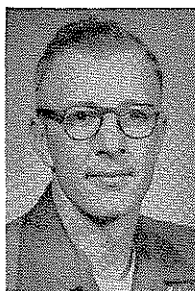
He did his undergraduate work at Utah State College and West Virginia University. A Master of Science degree was awarded by West Virginia University in 1947. Professional experience includes teaching Vocational Agriculture at Spencer, West Virginia, and serving as Head of the Agriculture Department at Glenville State College (West Virginia). He joined the staff in Agricultural Education at West Virginia University in 1951 and served until 1957, with the exception of time spent in graduate work at Michigan State University.

Bail has been active in professional organizations and is currently serving as Chairman of the Professional Information Committee of the Agricultural Education Division of the American Vocational Association. He has contributed several articles to the *Agricultural Education Magazine* and other professional journals. He is the author of several publications used in the Vocational Agricultural program in West Virginia.

As a former student in Vocational Agriculture, he served as an officer in the State Association of FFA. He also served as a navigator in the U. S. Air Force during World War II, being released from duty as a captain in the Reserve. He is a member of Alpha Zeta, Alpha Tau Alpha, and Kappa Delta Pi.

He is married and the father of one child, David, age 7. □

Cross to Colorado State



Irving C. Cross

IRVING C. CROSS has been appointed to the teacher-training staff at Colorado State University, effective August 1, 1957. He is a native of Colorado and has lived and worked in this state throughout his life, except for two tours of duty

with the U. S. Marine Corp.

Prior to coming to Colorado State University, Irving was employed by the Logan County High School System in Colorado. He began his duties with this school system in 1948 as a Vocational Agriculture instructor. In 1956 he became the Vocational Education Coordinator for this high school system and was charged with the supervision and administration of the total Vocational Education Program in the seven high schools comprising the Logan County High School System. He resigned this position to accept the appointment with Colorado State University.

Irving's formal education has been in Colorado. He was active in Vocational Agriculture for four years at Fort Collins High School and graduated from that school in 1942. At that time he was awarded the Sears-Roebuck Agricultural Scholarship to Colorado State University. He received his B.S. degree in general agriculture from this university in 1948. In 1956 he received his M. Ed. degree from the same university. While enrolled in Colorado State University, Irving was elected to membership in Alpha Tau Alpha and Phi Kappa Phi, serving as president of Alpha Tau Alpha in 1947-48.

Irving's duties with the teacher-trainer staff at Colorado State University will consist of approximately 50% resident teaching and 50% itinerant teacher-training. □

Super. and Admin. Support

(Continued from page 171)

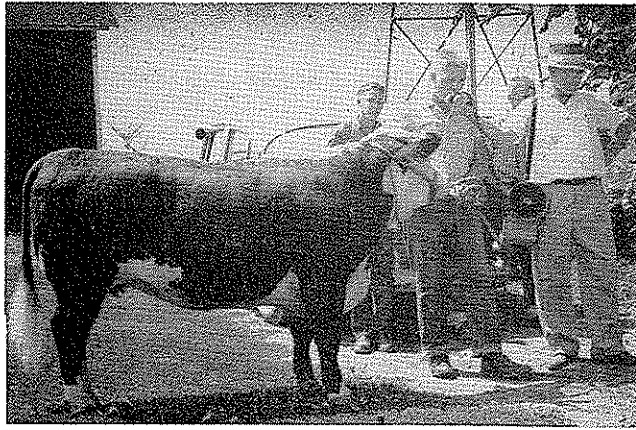
Responsibility for the progressive development of sound programs of vocational agriculture also rests, to a considerable extent, upon the supervisory staff. There can be no question that the program of vocational agriculture has contributed tremendously to the training of young men for farming and the upgrading of farming practices. During the past several years there has been increasing attention to the development of programs for young and adult farmers. It seems quite possible that in the next decade or so these phases of the program will be the dominant ones. To a large extent major emphasis has been given, in the past, to instruction "designed for those preparing to enter upon the occupations of the farm." If vocational agriculture is to be the agency to provide the vocational training needed and desired by those "who have entered upon" the occupations of the farm, much more attention must be given to this phase of the program.

The development of well-rounded farming programs is certainly one of the cornerstones of successful vocational agricultural instruction. Parents, instructors, administrators and school boards look for supervisory assistance in the development of programs that will provide the needed training for present and prospective establishment in farming. Most of the farming programs of the boys enrolled in high school vocational agricultural classes will be directed and supervised by the parents as well as by the instructor. The aim must be to develop, on a scale graduated in accordance with the developing abilities of the students, a program that will provide the experiences needed for successful establishment in farming. In young and adult farmer classes these programs should continue to develop thru the adoption of practices that will result in increased abilities and better living.

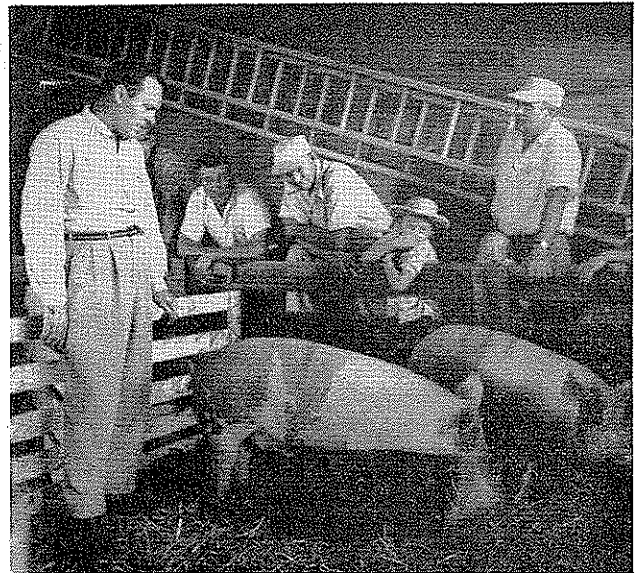
Supervisory functions cannot be properly conducted without intimate knowledge of the programs, practices and problems in vocational agricultural departments. So one of the jobs of all members of a supervisory staff is to work closely with enough departments so they know what's going on. Instructors have their morale boosted by constructive suggestions from members of the supervisory staff.

The program of vocational agriculture could not have been developed as it has been and cannot retain its continued growth in quality and quantity without the devoted service of instructors who have remained in the program and in the same positions for year after year, some for a whole active lifetime. These men and others to follow will determine the future of vocational agriculture. Consequently, one of the prime functions of supervision is to develop pre-service and in-service training programs and aids that will give instructors constructive help. Some of these aids are tangible such as those which have been so well developed in Illinois and many other states. Others are intangible resulting from mutual confidence developed among the instructors, the school administrators and the supervisory staff. These relationships have been basic in the growth of the program and are essential to its continued development. □

In Middle and South America, cattle and sheep are almost as numerous as human beings, while densely populated Europe and Asia have fewer livestock per 1,000 inhabitants.

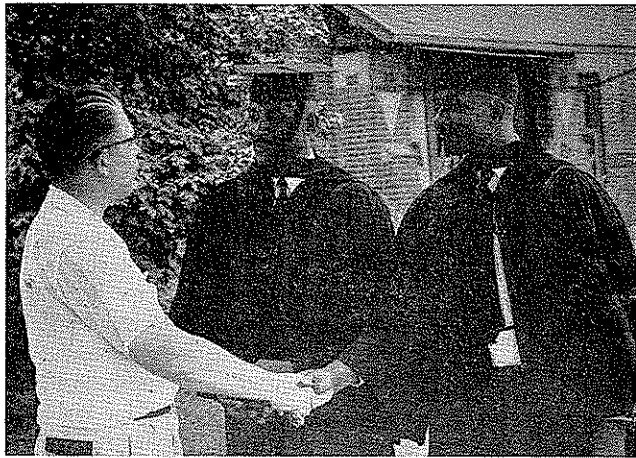


David Warn is showing his purebred heifer as his part in the Lone Tree, Iowa, Vo-Ag Dept. Farming Program Tour. Earl Hornbuckle, vo-ag teacher, is holding the speaker.

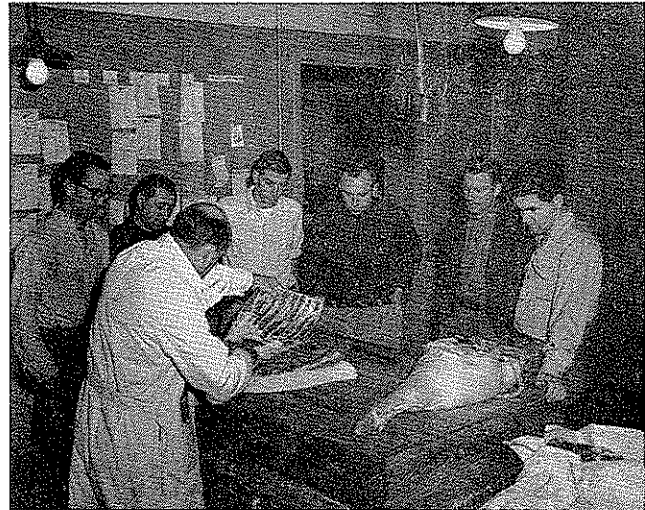


The Lone Tree, Iowa, Vo-Ag Dept. Farming Program Tour included a visit with Alan Williams who is busy explaining all about producing meat type hogs.

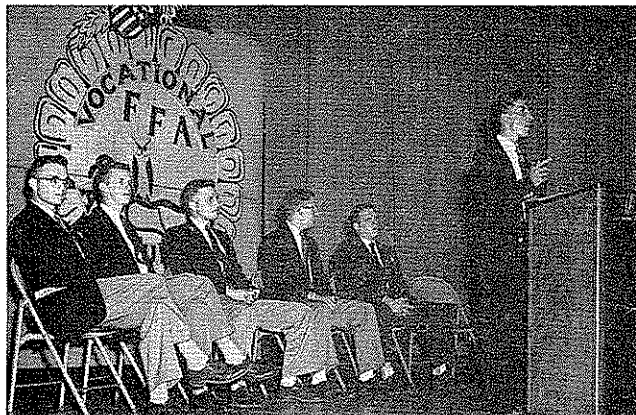
Stories In Pictures



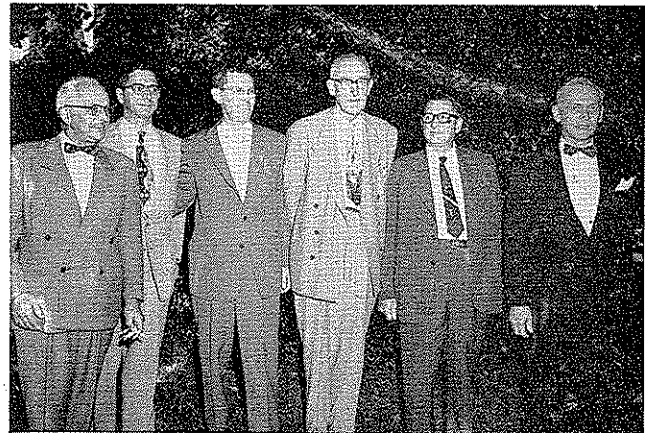
Two identical twins from Alabama received their Ph.D. degrees from Ohio State University this summer. They are Raymond H. Bridges and Lonnie H. Bridges, both of whom had received their Master's degrees from Tuskegee Institute. In this picture they are being congratulated by their advisor, Dr. Ralph J. Woodin.



In-service training of Vocational Agriculture teachers includes a demonstration of cutting up the hog carcass. It will be followed by actual experience in doing the job. Whenever possible, Vo-Ag teachers who are skilled in the job under study do the teaching. In this case, Roy Bryant, Vo-Ag Teacher, Clay-Battelle High School, Blacksville, West Virginia, is demonstrating to his fellow teachers. (Photo by J. Bail, Cornell U.)



Ross Schillaci, senior Agricultural Education student at Cornell University, points out the advantages of teaching vocational agriculture to delegates to the New York State FFA Convention held this year at Vernon-Verona-Sherrill Central School, May 17 and 18. All six seniors shown above represented the Agricultural Education student organization C. A. T. A. in a 20-minute program designed to interest FFA boys in teaching vo-ag.



From (left to right) Dr. W. F. Hall, Dr. N. K. Hoover, Department of Agricultural Education, Pennsylvania State University, Neville Hunsicker (Program Specialist, U. S. Office of Education), George Derr, Consultant, Department of Construction of Harrisburg, H. C. Fetterolf, Chief, Agricultural Education of Harrisburg, Dr. H. S. Brunner, Head of Department of Agricultural Education, Pennsylvania State University meet to discuss problems of beginning teachers of Agriculture.