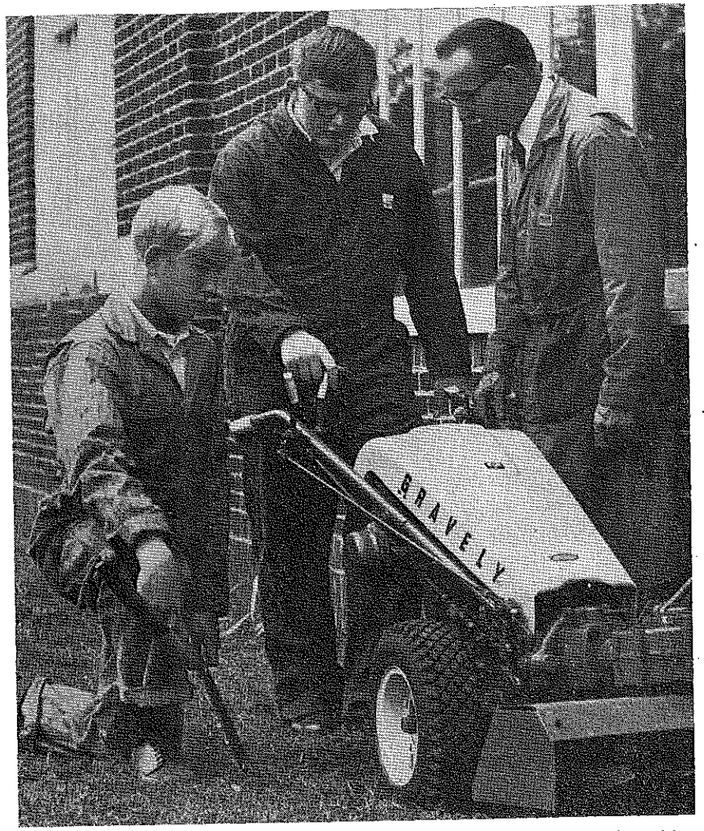
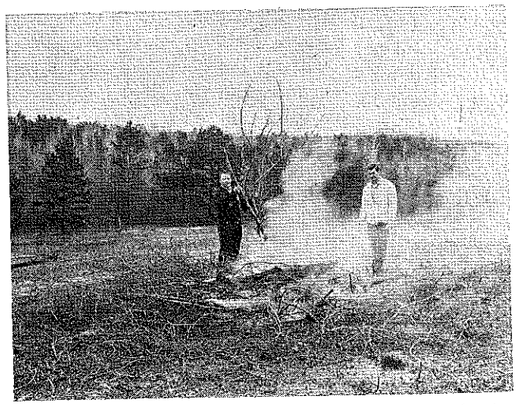
Stories in Pictures

Gilbert Guiler
Ohio State University

Experimental research is very much a part of the Vocational Agricultural Program at Kingsway Regional High School, Swedesboro, New Jersey. Direct seeding of asparagus is being compared to the conventional method of planting crowns. The consulting group here consists of Mr. Nick Ferrant, Agway; Mr. Brad Johnson, Rutgers' Vegetable Crop Specialist; Mr. George Lange, State Supervisor of Agricultural Education; and Raymond Warren, FFA Demonstration Chairman.



Robert Peterson and Bruce Frederickson, seniors at Minneapolis Roosevelt High School, receiving instruction in use of landscape equipment, for use in the horticulture work experience program initiated by the Minneapolis schools this year. The program is conducted by Mr. Luke.



Bill Smith, Alabama's Future Farmer of the Year, is shown burning brush from 40 acres of land he cleared by hand. Most of the wood from this land was sold for fire wood. Frank Hendrick is the vocational

Offering fertilizer to a customer. A thorough knowledge of fertilizer

Agricultural Education

Volume 38 February, 1966 Number 8

Kansas vocational agriculture teachers get in-service training in adjustment, care, and use of spray equipment. A sprayer was dismantled, inspected, and calibrated. A field trip demonstrated the effects of poor sprayer operation on weed control. (Photo by Eustace)

Featuring — IN-SERVICE EDUCATION

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Editorials

In-Service Education or Self-Education?

Why do supervisors and teacher educators find themselves *pushing* in-service education? Some teachers have suggested that occasionally this pushing comes closer to being "arm-twisting"! Why? If the in-service education programs are for the benefit of teachers, why aren't they doing the pushing? They are adult, intelligent individuals, interested in their profession and its future as well as their own.

The answer to this dilemma may lie in a mix-up of roles as supervisors and teacher educators have tried to assume their leadership roles. Perhaps this is to be expected. However, if this is the case, the emphasis should be shifted. The meaning is well expressed by John Gardner in his *Self-Renewal* when he says, "—to shift to the individual the burden of pursuing his own education."

The key point in this editorial is exactly as suggested by Dr. Gardner. The teacher of vocational agriculture must take the initiative for his own further education, rather than waiting for someone else to provide him with whatever he needs whenever and wherever it is most convenient for him. Such efforts at meeting desires of teachers have resulted in much of the in-service education being in the form of short workshops in all parts of the state. For certain professional needs, such workshops are appropriate; but for many teachers this approach is far from adequate.

As indicated by the heading of this article, it is suggested that we substitute the concept of self-education rather than continue to see all teacher needs being met through workshops and other forms of in-service education as something put on *for* teachers. It occurs to me that the teacher is investing exactly the same in the profession as the supervisor or the professor; namely, his life. Therefore, he must assume the "burden of pursuing his own education." Sure, the supervisors and professors should help develop programs, but teachers must take much more initiative in these matters.

Is the teacher the only one in Agricultural Education needing to follow Gardner's advice for self-renewal? *NO!* Gardner was talking to everybody. I am including every person in our profession, regardless of age, experience, or title. Too frequently one eliminates himself from such consideration on the basis that "the other feller" needs to have more education. The other feller means the young teacher (if I am older and had lots of experience); the older teacher (if I am younger and just out of college); any and all teachers (if I am a supervisor or professor); etc., etc., etc. In fact, limited research indicates that some supervisors have had little or no graduate study in the area of supervision. Some professors have not been back to graduate study since completing their doctoral study, whenever that was. So, individual needs for self-education may be greater in these two groups than among teachers. A title does not substitute for education.

This is not meant to be critical of any person or group of persons. It is meant to be a challenge to each and every person in Agricultural Education to accept for himself the Gardner idea, "—the burden of pursuing his own education." If each of us can do this, we will likely experience self-renewal and collectively this would result in self-renewal of Agricultural Education. Let's talk about SELF-EDUCATION rather than In-Service Education.

—Cayce Scarborough

"WHAT I EXPECT FROM MY PROFESSIONAL MAGAZINE"
(For Vo Ag Teacher Only)

A $1 bill will be sent to the 10 Vo Ag Teachers sending in the best Letter to the Editor on the above subject for the next 3 months. The top letters will be printed in the special NVATA issue in April — *Editor*

Cayce Scarborough

Theory *and* Practice

Can you remember such expressions as "He's finished his education"? Well, apparently we are living in an age when more appropriate terms are "Continuing Education," "Life-long Learning." The other day I ran across a new term for me, "Learning Agenda." I like the built-in idea of that term—implying learning for a purpose within some sort of schedule. Anyway, I believe that we might as well face it, we are going to be going to school as long as we live, if we want to stay alive personally and professionally.

* * *

No volunteers yet for better explanation of *modules.*

* * *

Students from high schools where certain teachers of vocational agriculture work regularly enroll in Agricultural Education in college. Some of these teachers have one or more of "their boys" in college all the time. On the other hand, no boys from vocational agriculture classes in some schools ever enroll in Agricultural Education. Why? Has anyone done any research in this area?

* * *

"Men who know that the world is changing rapidly might be expected to be able to provide:

Statements of aims. Changes that they would like to make in their knowledge, skills, attitudes, values, or relationships with others.

Definitions of areas of study, search, reflection or testing. Lists of activities, experiences, or questions that can help them accomplish their aims.

Ideas about priorities. Feelings of preference or urgency about what should be learned first."

—*Harvard Business Review*

(Continued on next page)

Theory & Practice

(Continued from page 171)

The death of R. K. Wright, teacher of vocational agriculture in Catawba County, North Carolina, was recognized by the *Hickory Record* in a lengthy, laudatory editorial which included the following: "Professor Wright was a true friend of all men. His life appeared to be dedicated to bridging the gap that some have created between the races. He exemplified true brotherhood and the urge to see good in his fellowman."

* * *

Sid Sutherland, retired, was reading some back issues of the *Ag. Ed. Magazine* and saw some pictures of himself in the earlier years. He was so impressed by what he saw until he wrote the verses found elsewhere in this issue.

* * *

Please note below the list of themes for the next three months. Pick your theme and send us an article about a million dollar idea (or even less) you are using in your program. Some teachers say that they want to read more articles by teachers. As Smokey the Bear says, "Only *you* can get more articles written." Your cooperation is appreciated.

—Cayce Scarborough

Letters to Editor

Dear Cayce:

I am enclosing a proposed article for the *Agricultural Education Magazine*. I get as confused with the Agricultural Education Magazine themes as I do with the International Sunday School Lesson. Are we about ready for a temperance lesson? At any rate if you feel that it is useable please do so at the appropriate time.

Sincerely,
Lowery H. Davis
Clemson University

Anyone volunteer to write the temperance lesson? — CCS

What Does It Mean to Teach?

ISN'T IT STRANGE that there are so many slow learners in our schools and so few slow teachers? We think we will improve our colleges by better selection of students but rarely assume that there is a connection between poor teachers and poor students.

A school executive in Michigan asked his faculty to jot down all the ways they could think of to improve their teaching. There were hundreds of suggestions regarding better textbooks, more instructional materials, clerical assistance, etc. But only a handful suggested that improved teaching required improved teachers.

What does it mean to teach? To teach is to transform by informing, to develop a zest for life-long learning, to help pupils become students — mature independent learners, architects of an exciting, challenging future. Teaching at its best is a kind of communion, a meeting and merging of minds. — EDGAR DALE.

Dear Dr. Scarborough:

For some time I had planned to write and congratulate you upon your election as Editor of The Agricultural Education Magazine, and to commend you on the fine appearance and the type of articles that are being printed since you took over your new position. I know it must be taking quite a bit of your time to do the job that you are doing. Congratulations!

I am taking the liberty to send you an article. Please give it your consideration for publication, and if it meets your specifications I will be glad to send you a picture to go along with the article.

With best wishes,

Yours very truly,
W. T. Johnson,
Assistant Supervisor
Vocational Agriculture

Kind remarks by homefolks are the kindest of all! — CCS

Lowell A. Burkett

Lowell A. Burkett Appointed Executive Secretary of AVA

Lowell A. Burkett, 53, has been appointed executive secretary of the American Vocational Association. He will assume this position January 1, 1966, succeeding Dr. M. D. Mobley, who is retiring. Mr. Burkett is now assistant executive secretary of the AVA, second largest national professional education association in the United States. Headquartered in Washington, D. C., the AVA has nearly 35,000 members including classroom teachers, administrators and other officials in the field of vocational and practical arts education.

Mr. Burkett has been identified with the nation's vocational education programs for more than 20 years. He served as the state supervisor of trade and industrial education in Illinois from 1948 to 1955, prior to being appointed to his

Themes for the Agricultural Education Magazine April-June, 1966

APRIL — NVATA

Emphasis on the role of the organization of teachers in total program. Close look at the national organization. Summary of state programs and activities. Major purposes and accomplishments. Future trends.

MAY — PLANNING SUMMER PROGRAMS

Emphasis upon planning for effective use of summer. (This is reason for setting this theme in May rather than June or July.) Not only for teachers but supervisors and teacher-trainers as well. Teachers plans for full professional use of summer months including supervision of work experience programs, professional improvement, etc. Need views of administration on summer programs.

JUNE — EVALUATING THE YEAR'S WORK

Who, what, when, and where in evaluating programs? Formal or informal. Role of participants in the programs. Principles of evaluating educational programs. Were the "right" people enrolled in the vocational programs? What record is made of the evaluation?

Editor's Note: Send articles to a Special Editor or to me as far as possible

NEWS and VIEWS

Stanton Smith, author of an article in this issue, has been Teacher of Agriculture at Canton Central School, Canton, New York, for 21 years. He has been active in professional associations having served as Secretary-Treasurer, Vice President and President of the New York State Agricultural Teachers Association. He is also active in community affairs and is currently serving his second term as Mayor of Canton, which is a college town of 6,000 population.

H. N. Hunsicker met with a National Committee which is developing a classification and coding arrangement for agricultural occupations. This meeting was held on November 15 in Washington. Members of the committee included: Dr. James Henzel, Head Agricultural Education, National Center for Leadership and Development in Vocational-Technical Education, Columbus, Ohio; Dr. Glenn Z. Stevens, Pennsylvania State University; Dr. William Drake, Cornell University; Dr. Norman Hoover, Pennsylvania State University; and, Mr. Linwood Bailey, USDA.

"Teachng can be fun. If teaching is fun, then learning on the part of the students is more fun. I contend that teaching can be fun if teachers are prepared and try to make their teaching something more than an academic chore." (Murry Phillips, Assistant Supervisor, North Carolina)

H. N. Hunsicker participated with the faculty and ad hoc advisory committee in Farmingdale, New York, to review progress of the development of a curriculum guide in ornamental horticulture technology. The guide is being developed by the faculty of the Farmingdale Agricultural and Technical College under contract with the Office of Education.

Governor Rhodes signed a proclamation proclaiming the week of February 6-12, 1966, as Ohio Young Farmers Week.

This proclamation recognizes the Ohio Young Farmers Association for its important contribution in providing continuing educational opportunities for Ohio's young farm families.

Mr. H. N. Hunsicker

New National FFA Advisor

H. Neville Hunsicker, newly appointed Chief of the Agricultural Education Service, U.S. Office of Education, was selected as the National Advisor, Future Farmers of America, at the 1965 National FFA Convention in Kansas City, Missouri, in October. He replaces Dr. A. W. Tenney who has been named the Director of Organization Relations for the Division of Vocational and Technical Education in the Office of Education. Mr. Hunsicker is the first National Advisor who is a former FFA member and a former high school student of vocational agriculture. He is a graduate of the Boyce, Clark County, Virginia, High School, and holds degrees from VPI and the Ohio State University. He also completed graduate courses at West Virginia University.

The new National Advisor taught vocational agriculture from 1931 to 35 at Wayne, West Virginia, and served as Assistant State Supervisor and State FFA Executive Secretary in West Virginia for 11 years. In 1946 he became the Head State Supervisor of Agricultural Education and served in this capacity until 1952 when he joined the staff of the U. S. Office of Education as Program Specialist for Agricultural Education in the North Atlantic Region.

Five Ways to Improve the Quality of Inservice Teacher Education Courses

GENE M. LOVE, Associate Professor
WILLIAM J. BROWN, Jr., Instructor
SAMUEL M. CURTIS, Instructor
Department of Agricultural Education
The Pennsylvania State University

Research in agricultural education has demonstrated five proven ways of improving the quality of inservice teacher education courses. They are:

1. Plan more courses for the summer months
2. Schedule classes at close intervals
3. Assign responsibility for course organization to a single individual
4. Provide professional aids for the teacher and subject matter for his students
5. Use qualified teachers of agriculture as well as university educational specialists to teach courses

Ideally, inservice teacher education courses should be taught in summer workshops. Or, if held during the regular school year, classes should be scheduled at close intervals—no longer than one to two weeks apart. Research conducted by the Department of Agricultural Education at The Pennsylvania State University has shown that a three-day summer workshop is a superior scheduling technique when compared with monthly classes held during the regular school year. A similar comparison between three-day summer workshops and weekly classes held during the regular school year failed to show a significant difference on the basis of an objective multiple-choice test. However, the mean test scores of the workshop teachers were numerically higher than the teachers in the weekly sequence of scheduling.

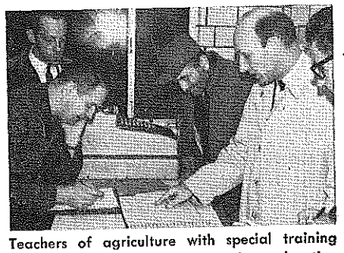
These facts suggest that teacher educators and administrators should consider increasing the amount of "prime time" for inservice teacher education. Why shouldn't teachers be given an opportunity to increase the time they spend in inservice education classes during the summer without loss in pay? Large industries not only give their personnel time off for inservice education but also frequently pay tuition costs.

Another vital point in improving the quality of inservice teacher education classes is the organization of the course. Many universities use technical subject matter specialists, often from the agricultural extension specialists staff, to teach or to assist in the instruction of off-campus inservice education classes for teachers. Apparently the theory here is that technical people are better qualified for this job. It is true that they are well qualified *technically* but most have had very little formal instruction in methods of teaching. Unless someone assumes responsibility for the organization of the course and coordinates instruction to secure the continuity needed to accomplish planned objectives, instruction is likely to be aimless.

In the previously noted research study, it was demonstrated that either a "Qualified Teacher" or an "Educational Specialist" on a university staff was significantly more successful at teaching subject matter in a course on Quality Milk Production to a group of teachers than was a group of four "Technical Specialists" from the Dairy Science Department. This in no way casts reflections on the qualifications of the latter group of men. It does point out that course organization is a responsibility which should be assumed by a single individual—preferably someone directly concerned with the needs of the teacher.

To be fully effective, inservice teacher education must be concerned both with the professional needs of the teacher and the subject matter needs of his students. Someone once said, "You can no more teach something you don't know

Inservice teacher education classes should provide professional aids for the teachers and subject matter for his students. These teachers are learning "how to teach" and "what to teach" while being introduced to a new unit of instruction.



Teachers of agriculture with special training are qualified to teach inservice education classes. These teachers are studying dairy cattle nutrition in an inservice teacher education class. Research has shown that they can learn as well from a qualified teacher as they can from a university educational specialist.

place you haven't been." If this is true, how can a teacher educator demonstrate teaching techniques in an inservice education class if he is not qualified in both professional and technical matters? Subject matter competence is necessary for teacher educators, just as the ability to teach is needed by subject matter specialists who have a teaching function. No doubt the departmental organization of our colleges and universities are responsible for the feeling among many teacher educators that subject matter is not "their business."

A State Master Plan for Inservice Teacher Education has been in operation in Pennsylvania for the past three years. Its aim is to help teachers improve instruction. One of the premises upon which this plan is based is that of simultaneously providing professional aids to the teacher and up-to-date, relevant subject matter for his students. A full year is set aside for preparing a teachers unit plan and a student handbook of subject matter before the course is introduced to the teachers in inservice classes. Teachers need and use the curriculum materials provided in these

(Continued on next page)

Continuing In-Service Education – A Necessity

By J. A. WHITE, Teacher, Beauregard High School, Opelika, Alabama

J. A. White

Formal education falls into two categories—pre-service and in-service. From 18 years of experience as a teacher and as a district supervisor, I believe that in-service training is just as important as pre-service training—if not more so.

Most, if not all, states require that a prospective teacher hold a degree in his major field from a 4-year institution of higher learning. This properly sets a stage for a young man *to become* an effective teacher of agriculture. None of us were at the time of graduation the teacher we were capable of becoming. The attainment of a degree is the first step in this direction.

There are three long steps in addition to graduation that direct a man toward becoming a really effective teacher. I say long steps because at least two steps never end. The first step (not in order) is post graduate study at an institution of higher learning. The second is planned in-service training. The third is personal improvement of the teacher through personal study and experience.

Formal Education

Every teacher of vocational agriculture should achieve as much formal education as possible beyond the Bachelor's Degree. I believe this additional training is worth much more after the teacher has had some classroom experience. A majority of the courses should be taken in the field in which the teacher is working. However, courses in School Administration, and possibly other fields, are desirable. Many teachers of vocational agriculture have become distinguished principals, superintendents, supervisors and professors. School Administration courses also help the teacher to better understand the problems encountered by his superiors in administering a school system.

Who is Responsible?

In-service education of all the teachers in any system is the primary responsibility of the school superintendent. In most instances, however, the responsibility for agricultural and professional training of Vo Ag teachers is directed to the State Department of Education and is administered through the Supervisory Staff. This is true in Alabama.

Without some type of organized training, it is impossible for the teacher of vocational agriculture to keep abreast of the ever-changing situations with which he is confronted. This is true for the classroom, the mechanics program and the adult program.

Four Types

In Alabama we have, for a long time, held the following types of in-service training: (1) County meetings (2) area meetings, involving teachers from several counties (3) district meetings, involving a whole district and (4) instruction on the State level involving all teachers.

State and District

At most of the state meetings, all teachers are given instruction in the same area. Sometimes, however, the teachers in each district may study in a different area of work. Sometimes a corps of teachers is trained by college personnel or factory representatives. This group, in turn, gives instruction to their fellow teachers at area or district meetings. This method has proven quite satisfactory and has greatly multiplied the instructional efforts of experts whose services have been secured. During the past several years, all teachers in Alabama were given, through this method, instruction in the following areas: (1) Farm Management (2) Factory course in overhaul of small gasoline engines (3) Factory course in teaching arc welding, and (4) Advanced course in landscaping.

All of these courses have worked wonders in bringing the teacher up-to-date and by giving them renewed self confidence.

In addition to organized activities, every teacher should continue to improve himself through reading professional periodicals and books—even some material that is not even related to vocational agriculture. He should also attend such functions as livestock field days, breed association meetings, and commercial demonstrations whenever possible. Many teachers organize and promote such programs.

Time and Challenge

You may say, "A teacher just does not have time for all these activities." I readily agree. But since we don't have time for all, let's participate in all we can. I wouldn't *trade* jobs with anyonel

Five Ways to Improve

(Continued from page 174)

courses. The quality of high school young adult farmer programs in Pennsylvania has especially benefited from instruction in such courses.

Finally, every state in the Union has an untapped reservoir of qualified teachers who could be employed by responsible colleges and universities to plan, initiate, and conduct inservice teacher education courses. Membership on a college or university faculty *is not* a prerequisite to success with an inservice program. Research at Penn State has shown that a "Qualified Teacher," specially trained in the subject matter area, can perform equally as well as an "Educational Specialist" from the university staff. In fact, it is easier to economically justify the use of a "Qualified Teacher," if he happens to be located near the place where classes are to be taught.

Soil and Fertilizer Competencies Needed by Farmers

WILLIAM C. BENNETT, Jr., Vo Ag Instructor, Tama-Toledo, Iowa
DUANE L. BLAKE, Teacher Education, Iowa State University

Increasing farm size and changes in crop production practices have brought about the need for additional work and training of present and prospective farm operators in the understandings and abilities relating to the production of crops and the management of soils. Increased production costs, higher yield requirements and additional work during the planting season allow less time for making added decisions regarding soil management practices and fertilizer use. The efficiency of the operation often depends upon the preparation of the farmer to understand and make these decisions. As a guide to planning for training programs to meet these needs, a study was completed to determine: "Competencies In Soil Management And Use Of Fertilizers Needed by Farmers."

Leaders from six agricultural fields were asked to recommend outstanding workers to serve on a panel of consultants and suggest a list of abilities and understandings they felt a farmer should possess to do a successful job of farming. The resulting list of competencies was used in the form of a questionnaire to obtain an evaluation of the listed items by 200 men who had been named by their communities as outstanding farmers. These men had been selected over a five year period for a contest sponsored by the Iowa Junior Chamber of Commerce for progress in agricultural career, conservation practices and contributions to the community. The outstanding farmers were asked to indicate the degree of competence needed in order to do a good job of farming and also the degree they actually possessed. The 46 competencies as ranked by degree of need are listed in table one.

Ranked Soil Fertilizer Competencies Needed by Farmers

Responsibility for maintenance of soil productiveness for future generations.

Control weeds and soil insects.

Develop a farm plan for maximum use of soil resources.

Economic principles in soil management.

Balanced nutritional needs of crops.

Safety in transfer of liquid and anhydrous from bulk to applicator.

Fertilizer nutrients, grades and labeling.

Plan an economical fertilization program.

Proper use of fertilizer in good soil management.

Economic principles of fertilization.

Effect of leaching and placement on nutrient availability.

Effect of cropping systems on erosion control, soil structure and soil loss.

Soil fertility as it is related to crop production.

Conservation practices and their values.

Most Competence

The outstanding farmers indicated they possessed the most competence in: (1) responsibility for maintenance of soil productiveness for future generations, (2) establish a profitable crop rotation, (3) control weeds and soil insects, (4) conservation practices and their values, (5) proper use of fertilizer in good soil management, (6) use tillage practices correctly, (7) match plant population to fertilizer, (8) take an accurate soil sample, (9) manage each field as a separate unit according to its soil capabilities, and (10) help and funds available through Agriculture Stabilization and Conservation Commission, Soil Conservation Service, Extension Service and Vocational Agriculture.

Least Competence

The outstanding farmers felt they had the least competence in the areas of: (40) physical characteristics of fertilizer, (41) renovate permanent pasture, (42) determine slope and layout contour lines, (43) calculate best limestone buys, (44) operate machinery over terraces, (45) micro-elements, soil conditioners and organic fertilizers, (46) establish terraces.

The need for additional training for present farm operators is indicated by a comparison of the mean scores which pointed out a need for more competence than was possessed in 44 of the total 46 and evaluated. The competencies possessed had a larger mean score than competencies needed in only two areas. The ability to use temporary fence in management of cropland with a mean possessed score of 5.37, and a mean needed score of 4.92, and the ability to take an accurate soil sample with a mean possessed score of 5.83, a mean needed score of 5.27. The lowest mean needed score of 4.92 for all competencies also indicated a need for training as any rating over one indicated some need existed.

Significant correlations were found in comparison of the top ten most highly ranked competencies and control variables. Those significant at the one percent level were: educational level of the operator and the economic principles of fertilization; educational level of operator and plan an economical fertilization program; and gross income and balanced nutritional needs of crops.

Correlations significant between the ten high ranked needed competencies and control variables at the five percent level were: educational level of operator and develop a farm plan for maximum use of soil resources; acres operated and control of weeds and soil insects; acres operated and balanced nutritional needs of crops; gross income and safety in handling of liquid and

(Continued on page 187)

On In-Service Needs – Teachers and Supervisors Don't Agree

FRANK B. KILLOUGH, Vo Ag Teacher, Auburn, Alabama

Frank Killough

In the October 1965 issue of the *Agricultural Education Magazine*, the editor speaks of the definition of a 1966 model Vocational Agriculture teacher. Obviously, this definition would describe a teacher who has kept up with the changes. Models for Vocational Agriculture teachers should change much the same as models for automobiles. That is, a new model each year.

These changes must be brought about by use of the many varied methods of in-service training. Without in-service training the recently revised courses of study are of little value to the out of date Vocational Agriculture teacher. The out of date teacher must continue with his old course of study until he moves to utilize some in-service training provided by the state colleges or his supervisory staff.

Several of the revised courses of study for the deep south states have been reviewed. Production farming constitutes only a fraction of the units of instruction in these new courses of study. New Units dealing with such topics as Merchandising of Agricultural Products, Farm Laws and Legal Problems and Organizational Structure of the Farm Business are but a few of the many recently developed areas of instruction. The 1950 college graduate cannot advise the modern farmer on these matters unless in-service training has kept him abreast of the constant changes.

Another concern of the Vocational Agriculture teacher is the matter of specialization. Primarily, the Vocational Agriculture teacher must operate as a one man program. In contrast to this, in other agricultural agencies and commercial concerns dealing in agricultural services there are multiple personnel employed and one or more persons are assigned special areas of responsibility. These specialists are not expected to deal with all current facets of agriculture and related areas.

In an effort to determine the opinions of other Vocational Agriculture workers on the matter of in-service training, two questionnaires were prepared. One was prepared for Vocational Agriculture teachers and another for State Supervisors. Questionnaires were mailed to a five percent random selection of Vocational Agriculture teachers in the four deep south states of Mississippi, Alabama, Georgia and Florida. All supervisors in these states were sent questionnaires. Replies were received from 41 of 64 teachers and 18 of 22 supervisors. The questions and answers are shown in the accompanying table.

Summary

Teachers and supervisors disagree to some extent on most of the questions. There is no doubt left that teachers are not thought to be up to date on agricultural advances. This fact should be of concern to all, and in-service training sessions should be scheduled.

Both groups consider it more important to attend in-service training programs than to do summer visitation. However, teachers consider this training more important than do the supervisors; yet, as shown in item one, a greater percentage of the supervisors feel their teachers are not up to date.

Training in methods of teaching is not considered to be of as much importance as subject matter. Again, the supervisors were stronger in their opinions.

On the matter of when to get the training, both groups felt that workshops in the summer were preferred. Six week courses at college definitely were not to be considered by the supervisors.

It was generally agreed that three weeks annually is needed to keep informed on the advances in agriculture and related technology.

QUESTIONS AND ANSWERS

The answers by teachers are listed first, the supervisors second.

1. Do you feel that teachers are keeping up with advancing technology in agriculture and related fields in your area?
   Yes: *29%* *17%*
   No: *71%* *83%*
2. Do you consider it more important for the teacher of Vocational Agriculture to stay in the community and do summer visitation or attend well planned in-service education programs?
   Yes: *18%* *39%* Stay in community
   No: *82%* *61%* Attend in-service training
3. Do you think that you should specialize in your training based on the needs of your community or continue generalized training?
   Specialize *69%* *76%*
   Generalize *31%* *24%*
4. Do you think that teachers need in-service training more in subject matter or teaching methods:
   Subject matter: *88%* *94%*
   Methods : *12%* *6%*
5. When would it be most convenient for teachers to secure in-service training? Rank in order of preference (that is, 1-2-3, etc.)
   a. Workshops during the summer. *1st choice* *1st choice*
   b. Evening classes held within fifty miles of your school. *2nd choice* *3rd choice*
   c. One week courses held at college during the summer. *3rd choice* *2nd choice*
   d. Three week courses held at college during the summer *4th choice* *4th choice*
   e. Six week courses held at college during the summer. *5th choice* *5th choice*
6. How much in service training is needed annually to keep teachers reasonably well informed on advances in agriculture and related fields? Check one.
   a. One week *24%* *12%*
   b. Three weeks *65%* *82%*
   c. Six weeks *10%* *0%*
   d. More *1%* *6%*

SAAE–VA Serves the Nation in Ag. Engineering Technology

HOWARD TURNER, Engineering Editor, Southern Association for Agricultural Engineering and Vocational Agriculture

"How can a vocational agricultural student learn all he needs to know about farm mechanics in the short time that is now permitted for training?"

Farm mechanization has added a whole new field to the already crowded agricultural education curriculum. And, to add more weight to the load, class time has been cut in half. It's pretty difficult to teach sufficient knowledge, understanding, and skills in one 50-minute period per day. But this is what seems to be expected of vocational agriculture teachers today.

Thanks to the foresight of some agricultural engineers and educators, this critical need was anticipated. Back in 1945 an organization was conceived that would aid teachers by screening and assembling information in agricultural engineering technology.

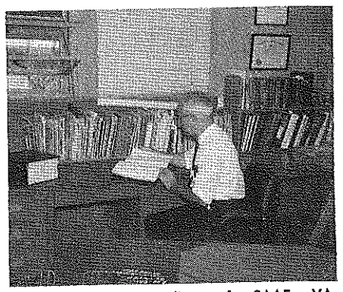
Participants were from the 12 southern states bounded by Texas and Oklahoma on the west, and Virginia and Florida on the east. Representatives of the agricultural engineering and teacher training departments at the teacher-training institutions and administrators from the state offices of education were the prime movers. Their objective was to try and find a way to develop more and better agricultural engineering information designed for teachers needs. As a result the Southern Association for Agricultural Engineering and Vocational Agriculture was born.

A coordinating office was established to facilitate the work. The office is supported and controlled by the 12 member states.

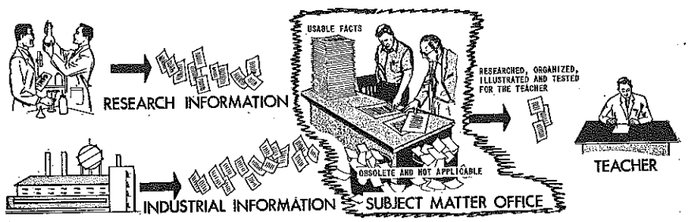
The Coordinator's Office is now a center for preparing subject matter and visual aids. The materials are widely used throughout the United States and many foreign countries by teachers, farmers, county extension personnel, electric utilities, health departments, dealers and others.

Teaching materials prepared by SAAE—VA:

- Saves a teacher's time per year.
- Enables a teacher to become self-sufficient and effective.
- Reduces state costs substantially for such subject-matter service—about 80 per cent.



G. E. Henderson, Coordinator for SAAE—VA, checks one of the 400 references collected for the development of one publication.



Without help teachers cannot possibly collect and screen all the information which is now available from research, industry and other sources. SAAE—VA subject-matter office helps fill this need in Agricultural Engineering Technology.

What makes the materials developed by SAAE—VA different from other teaching materials?

SAAE—VA publications and filmstrips are:

Factual – each is a simplified summary of *all* known references on the subject available at time of preparation. It's not just "another reference."

A teacher need not look any further for information except for prices, specific data or recent innovations. Therefore, he is able to teach more up-to-date facts and pertinent data in a shorter length of time.

Easy to Understand – The books are noted for simple illustrations, designed to emphasize important points referred to in the text. Color and other artistic devices aid in clarity. The text is edited to a high-school reading level.

Authentic – Before printing, each publication is issued in preliminary form for review by specialists in that subject-matter field. Their comments, suggestions and corrections are edited into the copies you get.

Complete – The "why" and "how" are explained so you will not have to wonder why certain recommendations are made or how to do some of the jobs.

information is organized on a problem basis so you don't have to reorganize it for teaching and to develop a logical understanding. Where scientific principles are involved, they are discussed and illustrated.

Available – A reserve supply of each publication and filmstrip is maintained at the Coordinator's Office, Agricultural Engineering Building, Athens, Georgia except prior to major revision. Then, the supply may run low until the revised edition is available.

Many teachers, and others, order directly. Some state departments of education order materials in quantity for distribution to their teachers.

What Subjects have been developed?

SAAE—VA is concerned with five areas generally recognized by agricultural educators. They are:

1. Farm power and machinery
2. Rural electrification and processing
3. Farm buildings and conveniences
4. Soil and water conservation
5. Agricultural construction and maintenance

Howard Turner

(Continued from page 178)

Publications and filmstrips developed to date from these five areas include the following titles:

	Publications	Filmstrips
Tractor Tune-Up and Service Guide	X	0
Selecting & Storing Tractor Fuels & Lubricants	X	X
Tractor Operation and Daily Care	X	X
Tractor Maintenance Principles and Procedures	X	0
Planning Farm Fences	X	X
Building Farm Fences	X	X
Planning Water Systems Farm & Home	X	X
Electrical Terms — Their Meaning and Use	X	X
Farm Electric Motors	X	X
Maintaining Home Lighting & Wiring System	X	0
Planning A Farm Shop Layout	X	X
Planning A Machinery Storage Layout	X	X
Planning Machinery Storage & Shop Structure	X	X
How Farm Electric Motors Start & Run	X	X
Selecting & Maintaining Farm Mowers	X	Available June 1966

Looking Ahead

What is the future outlook for source materials from SAAE—VA?

The next publication on schedule for development is one on maintenance and repair of small gasoline engines. Also a filmstrip paralleling the publication "Tractor Maintenance—Principles and Procedures" is expected to be compiled in 1966.

Other subjects will be selected and developed into publications, filmstrips, and perhaps projectuals as the need arises. Priorities are established for the development of subject matter by the Board of Directors of SAAE—VA. The Board consists of representatives from the 12 member states.

By the time of this printing SAAE—VA may have become a national organization with membership open to states throughout the nation. If so, it is hoped the production staff can be enlarged in the Coordinator's office and new materials can be developed fast enough to meet the continuing needs of teachers in the field of agricultural engineering technology.

Editor's Note – The organization did "go national" by vote from all states in the regional organization. It is now the American Association of Agricultural Engineering and Vocational Agriculture (AAAE—VA).

Safety Demonstration Works

STANTON B. SMITH, Teacher of Vo-Agr., Canton Central School, Canton, New York

Purpose: To emphasize the necessity for the correct operation of Oxy-Acetylene Welding Equipment.

Materials Needed: Oxy-Acetylene welding equipment, 3 balloons, 1 Green, 1 Yellow and 1 Red.

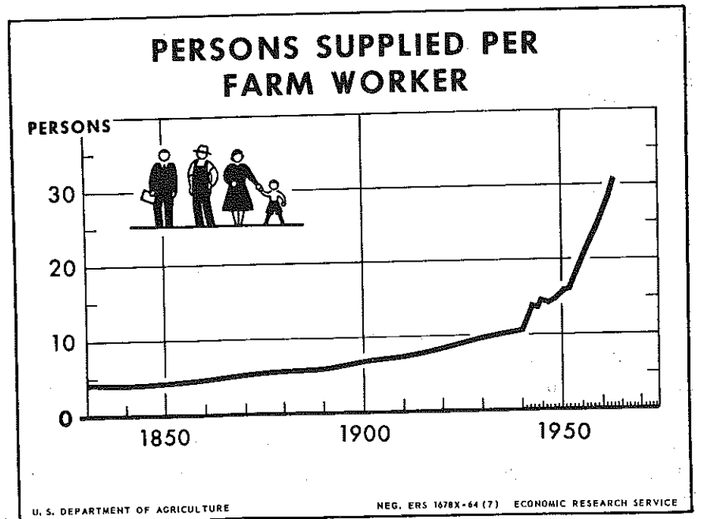
After students have had background information in class relative to fundamentals of Oxy-Acetylene welding in preparation for actual demonstration, take them into the shop where equipment has been prepared.

Demonstrate correct procedure for attaching guages to tanks. Disassemble a guage to show the diaphragm and how it is used to obtain correct working pressure for the various welding tips. Reassemble guage and open tanks. Light torch and adjust to a neutral flame by use of the working pressure guages. While doing this, review with the class the items necessary for combustion to take place . . . namely a combustible material (Acetylene), something to support combustion (oxygen), and ignition (spark). At this point, demonstrate how to shut off torch and shut down equipment by turning off tanks and draining guages properly. Emphasize the importance of preventing the two gases from mixing in the guages.

Re-open tanks, light torch and adjust to a neutral flame again by use of the working pressure guages. Shut off torch. Inflate the green balloon to the size of a softball by using oxygen as set for the neutral flame. Tie balloon and put on the end of a welding rod. Inflate the yellow balloon with acetylene as set for the neutral flame. Tie off and place on the end of a welding rod as before. Now open both controls on the torch with oxygen and acetylene being released as for a neutral flame. Fill red balloon to the size of a tennis ball (no larger), tie off and put on the end of a welding rod.

Relight torch and adjust to a neutral flame and touch flame to green balloon. No noise results. Touch flame to the yellow balloon. A small pop occurs with considerable black smoke. Touch flame to the red balloon. A really loud explosion occurs.

The writer has found this demonstration to be one which holds complete interest and attention. It also leaves a lasting impression of the necessity for operating Oxy-Acetylene equipment correctly.



Effectiveness of High School

G. L. O'KELLEY Jr.[1] and

G. L. O'Kelley Jr.

Vocational education in agriculture has been a part of the secondary school curriculum in many Georgia schools for more than 30 years, and in some school systems it has been offered continuously for more than 40 years. During this period thousands of students have completed the instructional program and entered the vocation of farming. In those counties where such programs have been in operation for extended periods, it would seen at this time that these graduates should constitute a significant portion of the farm operator population. In such a situation it would seem reasonable to expect these graduates to be demonstrating superior farming techniques in comparison with their neighbors if the vocational agriculture instructional program is both functional and effective. Recent requests for additional legislative appropriations to expand vocational education programs have caused educational leaders to seek objective evidence of the educational worth of all types of education programs—including vocational education in agriculture.

The authors of this report were convinced of the need for a study involving Georgia farmers to determine whether or not there were significant differences in the tendencies of farmers with high school vocational agriculture backgrounds and those without high school vocational agriculture backgrounds to adopt improved farming practices in their farming operations. Although support for a state-wide study was not available, it was believed that a pilot type study in certain selected counties was feasible and practicable and could provide some insight into the aforementioned problem as well as validate a procedure for a later state-wide study should support become available.

The Problem

The study was designed to compare farmers who had been and those who had not been enrolled in high school vocational agriculture classes in terms of the number of improved agricultural practices reportedly adopted in the operation of their farm businesses.

Specifically the objective of the study was to determine if there was any significant difference in the two groups in terms of their tendencies to adopt improved farming practices in the farm businesses.

Population

The researchers, after consultation with statistical advisors, determined that valid results could be expected by using sampling procedure and that the area probability block method would probably give a more valid sampling than other methods under consideration.

Data Gathering Device and Teacher Instruction on Use of Same

An interview schedule, including the list of improved practices which had been prepared with the assistance of Extension Service specialists, was completed in the fall of 1961. A teacher of vocational agriculture in each of the eight counties selected for study was asked to serve as data collector in his respective county. After a trial run was completed, the outcome was evaluated, and as a result, several changes were made in the original schedule.

Data and Analysis

After discussions with several statistical consultants, the researchers decided to use chi square values to test the null hypotheses stated with reference to each of the objectives listed in the study. It should be pointed out that several different statistical methods could have been used, but the researchers thought that a more refined statistical design or method was neither practical nor warranted.

The Study Groups

Of the 356 farmers whose responses were included in the study, 96, or 26.6 percent, reported having been enrolled in one or more vocational agriculture classes during their high school years. The remaining 260, or 73.4 percent, reported no enrollment in vocational agriculture classes during their public school years. These two groups constitute the two study groups involved in this study.

The respondents were asked to identify the two most important crop and the two most important livestock enterprises on their farm in terms of income received for the year 1961. See Table 1.

In order of importance, the five enterprises more commonly reported by farmers were swine, corn, beef cattle, peanut production, and cotton. Less often reported enterprises included small grain, dairy cattle, egg production, truck crops, pecan production, broiler production, and peach production, in that order of importance, as measured by the number of farmers reporting the enterprise.

The former vocational agriculture group reported beef cattle, peanuts, and cotton enterprises in slightly larger percentages than did the non-vocational agriculture group, while the latter reported slightly larger percentages with corn, dairy cattle, and broiler enterprises than did the former.

Swine

Farmers with vocational agriculture in high school completed significantly, at either the .05 level or the .01 level, more of the improved swine production practices listed than did farmers in the non-vocational agriculture group. When a composite comparison between the two study groups on the basis of all the practices was made by chi-square values, it was determined that farmers in the vocational agriculture group completed significantly, at the .01 level, more practices than did the farmers in the

* Summary of Staff Research Project. Bulletin No. 6. Research Series. Department

[1] Teacher Education, University of

Vocational Agriculture Instruction*

H. T. LESTER, JR.[2]

H. T. Lester, Jr.

Beef Cattle

Significantly more farmers in the vocational agriculture group, at either the .05 or the .01 level, completed 13 of the 16 individual beef cattle enterprise practices investigated than did farmers in the non-vocational agriculture group. When a comparison of a composite of all practices between the two groups was made, it was determined that farmers in the vocational agriculture group adopted significantly, at the .01 level, more practices than did farmers in the non-vocational agriculture group.

[2] Director of Vocational Education Research, University of Georgia and State Department of Education.

Peanut Production

Only three of the nine practices investigated were reported by less than 50 percent of the farmers. Significant differences at the .05 level were found between farmers in the vocational agriculture group and farmers in the non-vocational agriculture group in terms of two of the practices listed. No significant difference was found between the groups in terms of any of the other seven practices. A significant difference at the .05 level was found between the two groups in terms of the total number of practices adopted. All differences found favored the vocational agriculture group.

TABLE 1

MAJOR ENTERPRISES REPORTED BY FARMERS

Major Enterprises Reported	With vocational agriculture		Without vocational agriculture		All farmers	
	Number	Percent	Number	Percent	Number	Percent
Swine	80	83.33	215	82.69	295	82.86
Corn	74	77.08	214	82.31	288	80.90
Beef cattle	58	60.42	133	51.15	191	53.65
Peanut	54	56.23	133	51.15	187	52.52
Cotton	38	39.58	78	30.00	116	32.58
Small grain	3	3.12	14	5.38	17	4.77
Dairy cattle	2	2.08	10	3.85	12	3.37
Eggs	1	1.05	6	2.31	7	1.96
Vegetables	1	1.05	5	1.92	5	1.40
Pecans	1	1.05	4	1.54	5	1.40
Broilers	0	.00	3	1.15	3	.84
Peaches	1	1.05	0	.00	1	.28
Total	96	100.00	260	100.00	356	100.00

TABLE 2

COMPOSITE OF TOTAL PRACTICES ADOPTED BY FARMERS FOR THE FIVE MOST COMMONLY REPORTED ENTERPRISES: BEEF CATTLE, CORN COTTON, PEANUT AND SWINE PRODUCTION

Practices	With Vocational Agriculture		Without Vocational Agriculture		Total	
	Number	Percent	Number	Percent	Number	Percent
Used	2812	72.96	5855	59.61	8667	63.37
Not used	1042	27.04	3967	40.39	5009	36.63
Total practices	3854	100.00	9822	100.00	13676	100.00

Calculated $X^2 = 237.951$
Degrees of freedom = 1
Probability = .01

Corn Production

Only three of the improved corn enterprise practices investigated were reported by less than 50 percent of the respondents. It was determined that three of the listed practices were adopted by significantly more, at either the .05 level or the .01 level, of the vocational agriculture group. A significant difference, at the .01 level, was found between the two study groups in terms of a composite of all practices listed. All differences found were in favor of the vocational agriculture group.

Cotton

Only one of the practices investigated was reported by less than 50 percent of the farmers. Significant differences between the two study groups in terms of three of the individual practices were determined to exist. A significant difference at the .01 level was found between the study groups in terms of a composite of all improved cotton enterprise practices reported. All differences found favored the former students of vocational agriculture.

Composite of Enterprises Most Commonly Reported by Respondents

Of the 12 enterprises which respondents listed as major enterprises on their farms, five were most commonly reported. They were swine, beef cattle, corn, peanuts, and cotton. Using chi-square values, the researchers calculated the differences between the two study groups in terms of the individual practices adopted in each of these enterprises. The difference between the number of improved practices by enterprises reported by the two study groups was calculated and, in every case, a significant difference was found in favor of the vocational agriculture group. In addition, when a composite of all practices in all five enterprises was

(Continued on page 188)

Increasing Enrollment in Post High School Vocational Courses Through Commercial Scholarships

PHILIP G. STILES, University of Connecticut, Storrs

Philip G. Stiles

The number of students taking post high school, non-degree vocational poultry courses over the past 15 years has been low. A gradual decline in enrollment occurred each year mainly due to a decline in traditional recruitment sources, such as farm upbringing, farm meetings, and parental encouragement. A series of science institutes, tours, and 4-H participation programs for high school students interested in poultry offered little relief to the problem. The situation has been reversed at the University of Connecticut through a threefold undertaking. First, the curriculum was diversified to include vocational food handling and distribution. Second, recruitment aid by various commercial companies was sought because they needed these graduates for their employment. Third, students were placed into excellent summer jobs to give them valuable experience and then placed in challenging career positions following their graduation. One of the major success keys for this program was the offering and administering of scholarships by commercial concerns.

Work with Industry

Prior to establishing the food distribution program, interviews were held with food industry leaders. These industry people included food production managers, feed men, processors, wholesale distributors and retail food executives. Poultry and food business men were asked what their training needs were and what types of training programs they would favor. Based on these interviews and plant visits, a study curriculum was established that would fulfill the demands and obtain industry support. This curriculum was a vocational, non-degree two year program emphasizing food handling and distribution. Poultry marketing courses were included as well as the related disciplines of products technology, communication skills, personnel relations and merchandising techniques.

When the curriculum was accepted by the teaching faculty, a conference was held to introduce it to the industry. This conference was the major effort in establishing scholarships and recruitment programs. Industry leaders were not pressured to offer scholarships. They were instead asked their opinions regarding the best methods of attracting students for training to meet their own employment demands. The demand for this type of training was real and the logical incentive to fulfill it was a monetary means. Modest scholarships were not expensive for the commercial concerns yet readily accomplished the purpose of recruitment more successfully than the offer of a permanent salaried position following graduation. These scholarships paid tuition, fees and in some cases room and board.

Two food companies offered scholarships limited to students studying in this program at the University. Four others offered scholarships for study in the food distribution area, but without the school being specified.

Recruitment was accomplished through the scholarship plan by having only those students who were accepted by the University as being eligible for financial aid direct from a commercial concern. The companies advertised both the study program and their scholarships to their part-time high school employees. University officials verified student acceptance to companies offering scholarships.

The commercial companies were able to contact over 1,000 high school students who had their interest stimulated in the food area by working part-time. Thus recruiting was done in this manner. Prior to this, knowledge of the University administered scholarships, which were numerous, generally became known only to students already enrolled in the University. Most prospective students were not aware of the availability of University scholarships at the vocational level.

Food Distribution

Table 1. Freshmen Students Enrolled In Food Distribution Program

Academic Year	Received Commercial Scholarships	No. from these Companies	Total Enrollment
1962-63	3	7	10
1963-64	2	4	9
1964-65	2	11	18
1965-66	2	5	14

Table 1 presents data on the freshmen enrollment in the food distribution program. It can be noted that a large percentage of those enrolled came from companies offering scholarships. Seventy percent of the initial food distribution class enrolled as a result of the scholarship recruitment method. Approximately 50 percent enrolled from companies offering scholarships in the following three years. Over 75 percent of the students enrolled at the encouragement of their employer during their high school career rather than the previously mentioned traditional recruitment methods.

Poultry Market

Table 2. Enrollment in Vocational Poultry Marketing Courses

	COURSE			
Year	Marketing Poultry	Marketing Eggs	Poultry Seminar	Total
1958-59	4	*	—	4
1959-60	6	*	11	17
1960-61	5	*	9	14
1961-62	3	*	5	8
1962-63	13	15	3	31
1963-64	10	8	2	20
1964-65	22	16	5	37

*Marketing Eggs was combined with Marketing Poultry through 1961.

The enrollment in vocational poultry marketing courses is presented in Table 2. These figures

Philip G. Stiles

(Continued from page 182)

illustrate a marked increase in enrollment after the food program in 1962. Other vocational agriculture courses in which the food distribution students were enrolled showed increases, but in most cases not as dramatic an increase as with poultry course enrollment. Table 3 presents enrollment data on new courses instituted by the Poultry Science Department as a part of the food distribution program. These courses were not offered prior to the 1962-63 academic year.

Table 3. Enrollment in Newly Established Courses Offered by the Poultry Science Department

	Academic Year		
Course	1962-63	1963-64	1964-65
Food Packaging		14	8
Food Processing		9	7
Frozen Foods	11	16	17
Food Seminar		10	6
Total	11	49	29

Figure 1 graphically illustrates the increase in food and poultry marketing courses offered by the Poultry Science Department. The entire increase was due to the enrollment of food distribution students.

Summary

1. A vocational food distribution program was established to fulfill a training need in the state and to increase enrollment in agricultural marketing courses including those in Poultry Science.

2. Recruitment for the program was mainly accomplished by commercial companies offering, and administering scholarships as an inducement to enter the University.

3. Enrollment in poultry marketing courses has increased several fold since the introduction of the food program.

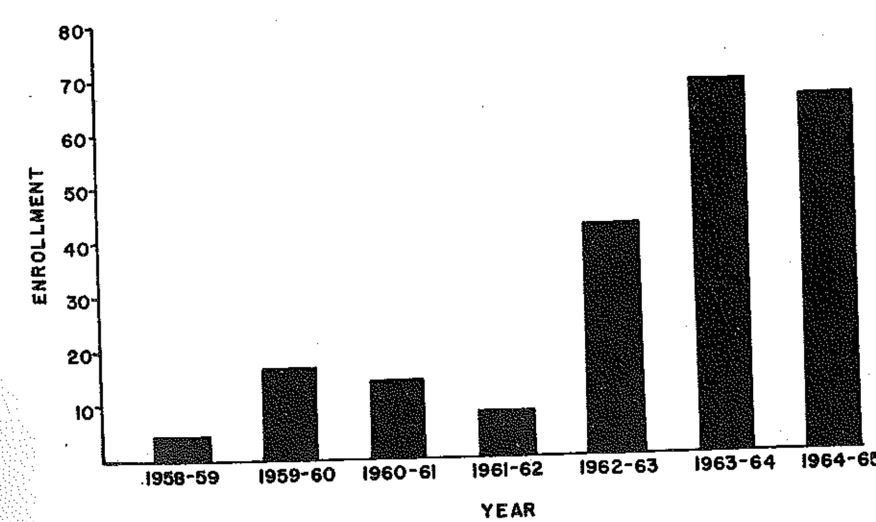
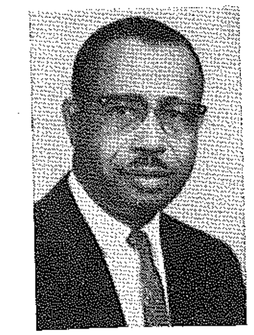


Figure 1: Enrollment in Food and Poultry Marketing Courses

Our Challenge—

Experience for World of Work

W. T. JOHNSON, Assistant Supervisor, Vocational Agriculture, Greensboro, N. C.



W. T. Johnson

The three problems to follow are being discussed by educational leaders on all levels:

1. Is our guidance program broad enough to satisfy the various vocational problems of our youth?
2. Is the guidance given in agricultural education broad enough to acquaint the rural youth with the problems involved in the broad field of agriculture?
3. Should our guidance program be broadened to include all educational problems of our youth?

For the next few minutes we will discuss some of the many problems that face, or will soon face the youth of this great country of ours:

When a child is born he has innate ability to strive to live. All he learns until he enters school he learns from his parents, radio, television, playmates, Boy and Girl Scouts, Y.M.C.A., Y.W.C.A. (if available), Sunday School, Church, etc. All depends upon what family he is born into. Unfortunately, the majority of those who fail to enter college are born in the lower income families and the less informed families. This group, as a rule, lives in the same section of town, or community, with all the disadvantages of not being able to attend our better schools or mingle with the children who were privileged to be born into the home with all of the advantages of good family background, libraries, well informed parents, and some of the above-named organizations that are designed to train and inspire youth.

Early Training

Why should we complain about drop-outs when there seems to be very little being done to prevent it? During the formative years of a child's life there are often very few organized guide-lines given when needed most. It is generally agreed that the early training of a child goes a long way in shaping his life. The child that has been exposed to all of the toys and mechanical devices at an early age usually develops into a very good student, and in most cases is included in the small per cent who enter college. The child with less advantages generally falls into the class of dropouts, and a very few succeed. The difference is great enough for serious thought to be given to broadening the education offerings, even in the lower grades. So, a child can get some information and training concerning the various occupations at an early age.

Based on the observations given above, it seems that some specially trained teachers should be employed to begin to give instruction

(Continued on page 189)

Off-Farm Agricultural

HAROLD R. CUSHMAN,
Agricultural Education Division,

With the passage of the Vocational Education Act of 1963 the purpose of vocational agriculture has been broadened from meeting " . . . the needs of persons over fourteen years of age who have entered upon or who are preparing to enter upon the work of the farm . . . "[1] to meeting the needs of all persons for " . . . vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupations involve work of the farm . . . "[2].

This action by the 88th Congress and the appropriation of funds to implement Public Law 88-210 have created a critical need for detailed information concerning the nature and extent of such occupations in New York State as a basis for making appropriate adjustments in the vocational agriculture program.

To meet this need a study[3] was undertaken in a cooperative effort to identify, and to obtain first-hand information concerning the off-farm agricultural occupations in the school districts offering instruction in agriculture in the State of New York and in two school districts within the Adirondack area.

The Agricultural Education Division of the Rural Education Department, New York State College of Agriculture; the Bureau of Agricultural Education, State Education Department, and Boards of Education and Boards of Cooperative Educational Services worked together to this end.

The Problem

The main questions to which answers were sought were:

1. What are the off-farm agricultural occupations?
2. What proportion of time is devoted to use of agricultural competencies in off-farm agricultural occupations?
3. How many persons are employed in such occupations?
4. At what levels of employment are such occupations found?
5. What is the outlook for employment opportunities in these jobs?
6. What agricultural competencies are needed by workers in off-farm agricultural occupations?

Procedures Used

1. The 260 school districts in New York State offering instruction in agriculture during the school year 1963-64 were selected as the study population. The main disadvantage of this choice of population was that it would not allow generalization to the State as a whole.

2. A stratified-random sample of school districts offering instruction in agriculture was selected using type of farming area, K-12 school population and "full value of taxable real property per resident child in weighted average daily attendance" as bases for stratification. Alternates were also selected.

3. The school administrators of the selected school districts (or in some cases the administrator of the Board of Cooperative Educational Services) were contacted by the Bureau of Agricultural Education to obtain permission for the teacher of agriculture to devote 20 working days to participation in the study. Following this procedure, cooperation was obtained from 16 school districts.

4. A sample of two school districts was selected in the Adirondack area on the basis that the districts were somewhat representative of the major conservation activities. A member of the faculty of each of the two school districts was employed to conduct interviews.

5. Interview schedules and an interviewer's manual were developed, critically reviewed, field tested in the Red Creek Central School District and revised.

6. The interviewers were given both individual and group instruction on such matters as plans for the study, identification of the local study population of businesses and services which might employ persons in off-farm agricultural occupations, conduct of interviews and

7. Interviews were conducted during the months of July-October, 1964, with representatives of 541 businesses or services in the sample drawn from the 260 school districts offering instruction in agriculture during the school year 1963-64. An additional 53 businesses or services were studied in two school districts in the Adirondack area. A noteworthy aspect of the study was that the decision of whether or not a business or service had employees needing agricultural competencies was left by the interviewers to the judgement of the employer.

8. The facilities and equipment of the Cornell Computing Center were used throughout the several stages of data processing.

Findings and Conclusions

Concerning School Districts Offering Instruction in Agriculture

1. Off-farm agricultural occupations are found in businesses or services with diverse functions. Although concentrated most heavily in service and retail sales, they are also found in manufacturing or processing, wholesaling, recreation, specialized agricultural production (other than farming) and education.

2. The job titles of most off-farm agricultural occupations can be found in the *Dictionary of Occupational Titles*.[4] However, they are usually classified under headings other than agriculture.

3. There is a vast array of separate and distinct job titles in which workers use agricultural competencies. Two hundred and thirteen were identified in this phase of the study (plus 43 additional titles in the Adirondack area). The proportion of time devoted to the use of such competencies on the job varies widely with job titles. However, on the average, workers in off-farm agricultural occupations use agricultural competencies a high proportion of the time (in this study 83 per cent). The average for workers in the various occupational families vary but little in this regard.

[1] The Smith-Hughes Act of 1917.
[2] The Vocational Education Act of 1963.
[3] Harold R. Cushman, Virgil E. Christensen and Garry R. Bice, *A Study of Off-Farm Agricultural Occupations in New York State*, (Ithaca: Cornell University,

[4] *Dictionary of Occupational Titles*, Definition of Titles, Volume I, (Washington:

Occupations in New York State

VIRGIL E. CHRISTENSEN and GARRY R. BICE
Cornell University, Ithaca, New York

4. The number of persons employed in off-farm agricultural occupations is substantial. It was estimated that 28,685 full-time workers and 16,841 part-time workers were thus employed in the 260 school districts offering agricultural instruction during the school year 1963-64. On a per school district basis it was estimated that there were 110 full-time and 65 part-time persons so employed.

5. Although full-time workers in off-farm agricultural occupations are found at all levels of employment, they are most frequently found in semi-skilled, skilled and managerial positions. Part-time workers are most likely to be found in semi-skilled positions.

6. The number of persons employed in off-farm agricultural occupations is increasing. Employer's estimates indicate a growth rate of 19 per cent for full-time workers between 1964 and 1969, and a growth rate of 13 per cent in part-time workers during the same period.

7. The employment opportunities outlook in off-farm agricultural occupations is favorable. It is estimated that 10,085 full-time and 9,948 part-time employment opportunities will be available in such occupations during the five-year period 1964-69 in the 260 school districts studied. In view of the fact that no large urban areas were included in the study and that approximately one-third of the school districts in the State offered instruction in agriculture, it is entirely possible that several times the 4,807 employment opportunities found in this study will be available each year for the foreseeable future in New York State.

8. When the areas of agricultural competency most needed by workers in the several occupational families are weighted by the annual employment opportunities per school district, it appears that training programs should emphasize the development of competencies in:

(a) Agricultural business and agricultural mechanics for prospective workers in all occupational families.

(b) Plant science for prospective workers in Crops Marketing and Processing, Forestry and Soil Conservation, Wildlife and Recreation, Ornamental Horticulture and Agricultural Service occupations.

(c) Animal science for prospective workers in Dairy Manufacturing and Processing, Livestock Marketing and Processing, Other Livestock Industry and Farm Service occupations.

(d) Forestry, conservation and outdoor recreation for prospective workers in these fields.

9. A high school education is sufficient for full-time workers in the vast majority of off-farm agricultural occupations but advanced training is a definite requirement in some job titles. Employer reports indicate that only 17 per cent of such workers need more than a high school education. However, job titles such as county agricultural agent, teacher of agriculture and veterinarian require advanced training for entrance.

Concerning School Districts in the Adirondack Area

1. Off-farm agricultural occupations in the Adirondack area are found most frequently in businesses or services whose main functions are service, recreation or retail sales. However, they are also found occasionally in businesses or services whose main functions are education and specialized agricultural production (other than farming).

2. The job titles of most off-farm agricultural occupations can be found in the *Dictionary of Occupational Titles*.[5] However, they are usually classified under headings other than agriculture.

3. There is a vast array of job titles in which workers use agricultural competencies. Seventy-six such job titles were located in the two school districts studied in the Adirondack area. The proportion of time devoted to the use of such competencies varies widely with job titles. However, on the average, workers in off-farm agricultural occupations use agricultural competencies a high proportion of the time (in this study 88 percent).

[5] *Ibid.*

4. The number of persons employed in off-farm agricultural occupations is substantial. An average of 109 full-time and 83 part-time persons were so employed in the two school districts studied in the Adirondack area.

5. Full-time workers in off-farm agricultural occupations are found at all levels of employment but most frequently in semi-skilled, managerial and professional positions. Part-time workers are most likely to be found in unskilled, service and semi-skilled jobs.

6. Employment in off-farm agricultural occupations is increasing. Employers estimates indicate a growth rate of 32 per cent for full-time workers between 1964 and 1969, and a growth rate of 28 per cent for part-time workers during the same period.

7. The outlook for employment opportunities in off-farm agricultural occupations is favorable. It is estimated that there will be 314 (148 full-time and 166 part-time) employment opportunities in such occupations during the five-year period 1964-69 in the two school districts studied in the Adirondack area. An average of 31 annual employment opportunities (15 in full-time and 16 in part-time jobs) are indicated per school district; not counting employment opportunities outside of the school district.

8. Training programs for off-farm agricultural occupations in the Adirondack area should emphasize development of the agricultural competencies needed in three occupational families: Wildlife and Recreation, Forestry and Soil Conservation and Agricultural Service. The highest priorities in such training programs should be placed in the development of competencies in the area of agricultural mechanics; agricultural business, and forestry, conservation and outdoor recreation.

9. A high school education is sufficient for entrance into approximately one-half of the job opportunities in off-farm agricultural occupations in the Adirondack area. Employer reports indicate that varying degrees of advanced training are required for the remaining positions.

(For Implications see page 189)

Team Teaching in Vocational Education

OVERTON R. JOHNSON, Teacher Education, Virginia State College

We are constantly in search of better ways to accomplish a much needed task in education—improvement of manipulative skills of teachers in vocational education through in-service training programs. Team teaching in in-service training courses is not a panacea but it is one answer.

The introduction of team teaching in vocational education was made with a graduate extension class in "Small Internal Combustion Engines" at the West End High School in Mecklenburg County, Virginia, during the fall of 1964. The purpose of this course was to help vocational teachers develop manipulative skills in maintaining and repairing small internal combustion engines.

The class was composed of sixteen high school vocational teachers —twelve in vocational agriculture and four in trade and industrial education. The class enrollment was limited to sixteen to facilitate use of vocational teaching principles.

The associate teacher, Mr. W. A. Loftis, a well qualified mechanic, was employed to teach repairing and maintaining small engines in the area.

16 Weeks

The course was organized for a sixteen-week period, one day a week for four hours, to provide sixty-four hours of instruction. Ninety per cent of the time was devoted to demonstrations and practical laboratory work.

Each student was supplied with one 4-cycle, and one 2-cycle small engine, and complete set of necessary tools. The agricultural mechanics shop at West End High School was spacious and well equipped. Supplies such as rags, motor oil, solvent, gasoline, emery paper, liquid wrench, paint, value grinding compound, etc. were provided.

The course content was planned cooperatively by the instructors.

Team Teaching Difficult

There was continuous planning each week for class activities. Team teaching was found to be more complex than cooperative teaching. It requires many personal-professional adjustments and is far more demanding on teachers than conventional techniques. This was particularly true of this teaching experience since the associate instructor was not a college graduate and had no training in methods and techniques of teaching. However, because of his excellent training and experience in small engines, he was ideally suited as associate instructor. We found it necessary to establish a very friendly relationship because it allowed for constructive criticism as well as equal sharing of work and responsibility.

Our team consensus determined what areas of the subject matter belonged exclusively to which member and how administrative chores were to be shared. Clear-cut delineations were vital in planning course objectives, but many jobs fell into place automatically, so we found, when we learned to work together.

Co-op Planning

Team teaching in vocational education should involve at least two teachers who assume joint and simultaneous responsibility for planning, executing, and then evaluating an instructional unit or activity. One teacher teaching all "compression" and another teaching all "carburetion" in small engines is not team teaching because the responsibility is divided and not shared. The teachers should understand thoroughly that each has a responsibility for the conduct of an educational program.

Cooperative planning is essential and adequate time needs to be allowed for its accomplishment. Cooperative planning is perhaps the most important concern of team teaching. Teams need to schedule meetings prior to each class to make decisions about class activities, evaluation of class activities and student progress, and choice and use of teaching aids and materials. We did this with most rewarding results. However, this was not easy because it was difficult, in this instance, to communicate ideas about such complex matters as instructional objectives, teaching techniques, and evaluative criteria. Yet without this ability a teacher cannot function as a fully participating member of a team. Thus this aspect must be developed.

It is suggested that each team member possess varied competencies and interests and that these individual differences be capitalized with each class activity. This is not to suggest, however, that the team member who is "best" in ignition teach all ignition and the one who is "best" in compression teach all compression. Rather, the idea is that both team members teach all aspects of engines and one member who is the most competent in a special area perform such tasks as giving demonstrations and recommending the selection and use of teaching aids in that area.

Responsibilities

This idea suggests also the necessity of differentiation of responsibility. One teacher should be designated as team leader. The purpose of the team leader is to focus attention on important problems and then seek to get a thoughtful consensus. In this sense, he is not so much a decision maker as a coordinator.

Lastly, we found that size and composition of the student group should fit the nature of the activity and the objectives sought. We found that in a practical course, such as this one on "Small Internal Combustion Engines," the number of students should not exceed sixteen from the standpoint of supervision of individual activities and conducting small group demonstrations.

Study Guides for Agri-Business Classes

J. A. RAY, Teacher of Vocational Agriculture, Northport High School
Northport, Alabama

With job placement now a responsibility of vocational agriculture teachers, many of us are groping for just the best procedure and plan to follow. Here is an idea that seems to hold possibilities for teachers located in or near urban areas. It has some advantages as well as some disadvantages. But first let's look at the idea.

Last year before school started plans were made for students to be placed on farm related jobs for afternoon and Saturday work experience. With the large number of students (approximately 150), two teachers, and a number of class sections, it was possible to schedule all of the agri-business students in a separate section. This makes possible the handling of the class as a unit and a similar procedure to that used by diversified occupations teachers with study guides. The study guides are for each individual student and in the field in which he desires to work.

The study guides had to be developed. This was done as much as possible during the summer. However, teacher time did not permit development of study guides for all occupations. This has made it necessary for students to use reference materials and develop questions to be used in the study guides. Students are maintaining high interest in the work in the classroom and on the job.

Although it has not been necessary to use study guides in mixed sections of "agri-business" and "agri-production," it seems probable that the study guides could be used in sections where the two types of students are combined into the same group.

Some problems encountered include the seasonality of many farm related businesses, and working out lines of cooperation with other vocational organizations which operate in most larger schools. These problems can be worked out in most cases with the vocational people concerned. It might prove necessary to have some students who would work only seasonly due to the fluctuations of some farm related farm businesses.

This idea is being tested at Tuscaloosa County (Alabama) High with the cooperation of the school principal. This procedure seems to have possibilities in some situations but would be rather difficult in some areas.

BACK ISSUES, AG ED MAGAZINE

Professor William H. Annis, Head, Agricultural Education, University of New Hampshire, Durham, offers extra back copies of the *Agricultural Education Magazine*. He has one, two and three copies of each of those listed here. Write directly to Bill. He also needs a few copies to complete his files, as indicated below.

—*Editor.*

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	December		

William C. Bennet, Jr. & Duane L. Blake

(Continued from page 176)

anhydrous fertilizer; acres operated and economic principles of fertilization; educational level of operator of weeds and soil insects; gross income and proper use of fertilizer in good soil management; gross income and economic principles of fertilization.

Favorable results of crop and soil study in vocational agriculture were evident in this study, as 53 percent of the 200 outstanding farmers had been enrolled in vocational agriculture while in high school. Twenty nine percent reported more than a high school education with the model group reporting within the 14 years of education range.

O'Kelley & Lester

(Continued from page 181)

made, a significant difference, at the .01 level, favoring the vocational agriculture group was noted. See Table 2.

Composite of Enterprises Less Commonly Reported by Respondents

With such small numbers of farmers reporting these enterprises, it became necessary to consolidate the number of practices reported for all these enterprises in order to obtain valid statistical results. The composite of all improved practices in the small grain, dairy cattle, egg, vegetable, pecan, broiler, and peach enterprises leaves much to be desired as far as information regarding specific enterprises is concerned. A significant difference at the .01 level was found between the two groups with the difference favoring the vocational agriculture group. See Table 3.

TABLE 3

COMPOSITE OF PRACTICES ADOPTED BY FARMERS FOR SMALL GRAIN, DAIRY CATTLE, BROILER, EGG, VEGETABLE, PECAN, AND PEACH ENTERPRISES

Practices	With Vocational Agriculture		Without Vocational Agriculture		Total	
	Number	Percent	Number	Percent	Number	Percent
Used	75	76.53	333	63.79	408	65.80
Not used	23	23.47	189	36.21	212	34.20
Total Practices	98	100.00	522	100.00	620	100.00

Calculated $X^2 = 7.339$
Degrees of freedom = 1
Probability = .01

TABLE 4

COMPOSITE OF ALL LIVESTOCK AND CROP ENTERPRISE PRACTICES ADOPTED BY FARMERS

Practices	With Vocational Agriculture		Without Vocational Agriculture		Total	
	Number	Percent	Number	Percent	Number	Percent
Used	2887	73.05	6188	59.83	9075	63.48
Not used	1065	26.95	4156	40.17	5221	36.52
Total Practices	3952	100.00	10344	100.00	14296	100.00

Calculated $X^2 = 212.109$
Degrees of freedom = 1
Probability = .01

Composite of All Livestock and Crop Enterprise Practices

Chi-square values were used to test the null hypothesis regarding differences between farmers in the two study groups in terms of the total number of all practices reported for all enterprises studied. The null hypothesis was rejected at the .01 level in favor of the vocational agriculture group in terms of this composite. See Table 4.

It would appear that farmers in the vocational agriculture group reported the adoption of significantly more improved practices in the 12 enterprises that were studied than did farmers in the non-vocational agriculture group.

Observations

An interpretation of the findings supports the following observations:

1. There was a significant difference, at the .01 level, between farmers in the vocational agriculture group and farmers in the non-vocational agriculture group in terms of the number of records kept in their farm business with the difference favoring the vocational agriculture group.

2. There was a significant difference, at the .01 level, between the vocational agriculture group and the non-vocational agriculture group in terms of the number of improved practices adopted in the enterprises studied with the difference favoring the vocational agriculture group.

3. There was a significant difference, at the .01 level, between the vocational agriculture group and the non-vocational agriculture group in terms of the number of improved practices adopted in the beef cattle enterprise with the difference favoring the vocational agriculture group.

4. There was a significant difference, at the .01 level, between the vocational agriculture group and the non-vocational agriculture group in terms of the number of improved practices adopted in the corn enterprise with the difference favoring the vocational agriculture group.

5. There was a significant difference, at the .01 level, between the vocational agriculture group and the non-vocational agriculture group in terms of the number of improved practices adopted in the peanut enterprise with the difference favoring the vocational agriculture group.

6. There was a significant difference, at the .01 level, between the vocational agriculture and non-vocational agriculture group in terms of the number of improved practices adopted in the cotton enterprise with the difference favoring the vocational agriculture group.

7. There was a significant difference, at the .01 level, between the vocational agriculture group and the non-vocational agriculture group in terms of a composite of all improved practices adopted for the small grain, dairy cattle, and egg, vegetable, pecan, broiler, and peach production enterprises with the difference favoring the vocational agriculture group.

8. There was a significant difference, at the .01 level, in the vocational agriculture group and the non-vocational agriculture group in terms of the total number of improved practices adopted in all livestock enterprises and crop enterprise practices studied when combined in one chi-square calculation with the difference favoring the vocational agriculture group.

9. It would appear that farmers reporting vocational agriculture in high school, did adopt significantly more improved practices than did farmers reporting no vocational agriculture study, but it should be pointed out before further generalizations are made that such factors as age and kind of education—both general and agricultural—received by the respondents were not held

Cushman, Christensen & Bice

(Continued from page 185)

Implications

1. High School agriculture programs in New York State must be vastly expanded if the demand for workers in the off-farm agricultural occupations is to be filled with agriculturally trained individuals. Existing high school agriculture programs in the State are graduating approximately 1558 young men (1964). Of this number, approximately 431 enter farming immediately, 420 continue their education full-time in colleges or other schools, and 220 enter the armed forces. Approximately 487 are available to compete for the estimated 2817 annual employment opportunities in off-farm agricultural occupations in their own school districts; not to mention employment opportunities in school districts not offering instruction in agriculture or those in large urban centers. The Vocational Education Act of 1963 clearly states that "any amounts allotted . . . for agriculture (instruction) may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects whether or not such occupations involve work of the farm . . ."

2. The employment opportunities outlook in off-farm agricultural occupations provides justification for the inclusion of the agricultural program in the developing area vocational schools. For example, an area vocational school established in a non-metropolitan area of New York State, serving eight school districts, could anticipate approximately 152 annual employment opportunities (88 full-time and 64 part-time) for which graduates in off-farm agricultural occupations could compete within the area served; and a somewhat larger number in the Adirondack area.

3. The expanded program in area vocational schools in non-metropolitan areas should include training in agricultural business, agricultural mechanics and plant science; in addition to preparation for farming where needed. In the Adirondack area training programs should emphasize the needs of workers in Wildlife and Recreation, Forestry and Agricultural Service occupations.

4. The agriculture course of study in school districts presently offering instruction in agriculture should be expanded to provide greater opportunity for preparation for off-farm agricultural occupations.

5. Training programs for off-farm agricultural occupations should embrace the areas of agricultural competency most needed by workers in those families and groups of families of occupations in which the largest proportion of employment opportunities are found in the geographical area in which the school plans to place its graduates. The findings of this study suggest that the agricultural competencies needed by workers in the several job titles of closely related families of occupations are sufficiently similar to provide a logical core for instructional programs.

6. The State Education Department should develop suggested courses of study in Agricultural businesses; Agricultural Mechanics, Plant Science; and Forestry, Conservation and Outdoor Recreation which are based on the agricultural competencies needed by workers in off-farm agricultural occupations. This material should then be made readily available for the guidance of school administrators, guidance counselors and other persons charged with responsibility for planning educational programs.

7. It is apparent that school districts adjoining or near those presently offering instruction in agriculture have employment opportunities in off-farm agricultural occupations which would justify offering agricultural instruction either on their own or as a program of a Board of Cooperative Educational Service.

8. Certification requirements and pre-service training programs for teachers presently based on the needs of students preparing for farming should be revised in view of the competencies needed by workers in off-farm agricultural occupations.

9. In-service training programs for employed teachers will be needed to assist them in acquiring the essential competencies needed for implementing training programs in off-farm agricultural occupations.

W. T. Johnson

(Continued from page 183)

in the activities that make this world operate, when the child enters school. That means that our classes should be smaller, and that a number of special teachers should be trained, or re-trained, and employed to assist with this program. Practical experiences should be given in the world of work.

Practical education is expensive. Most children have some kind of mechanical or practical aptitudes which they acquire at an early age. You will find little children making different articles, such as: sand houses (sometimes over their feet), boxes, and other objects; as they grow older the boys begin to make airplanes, cars, etc.; when the girls grow older they begin to cook, sew, etc. Most children, at an early age, begin to notice the types of jobs done in the community by their parents, walking like their parents, and pretending to engage in the many activities carried on in the community. Therefore, it appears that this early aptitude should be taken advantage of early in his training period. It probably will differ with different individuals. It is generally accepted among educators that a good teacher will start with the *known* facts, and guide the students in accepting the *unknown* facts. This means that teaching techniques will have to be reconstructed from day to day as the needs arise and the interest and attitudes of the students change. With this in mind, it appears that our curriculum should be broadened on all levels, with more teaching materials and equipment so that students can put into practice the things taught and make use of their own creative thinking.

Year-Round Programs

Much has been said about keeping the school open all year—this suggestion has some merits. When we think of the number of children that are in our various communities after school closes for summer vacation, very few of these children have jobs; and the most of them need something to keep their active minds busy. Some of our cities have recreation programs, but they are not always adequate. The rural communities, where all children of all ages were once employed on the farms, have very

(Continued on next page)

W. T. Johnson

(Continued from page 189)

limited recreational facilities. Now, there are very few of the rural children who are full-time employed on farms during summer vacation, and this means they are in the communities with nothing constructive to do.

Have we ever thought of leaving our school shops, laboratories, libraries, and gymnasiums open during the summer with competent people or teachers in charge, and permitting students to select the areas of interest? Whatever area is selected, the student would be permitted to work with and do whatever creative working and thinking he desires, under the guidance of the person in charge. The only planned program would be one planned by the students; but each student would be required to have his program approved. There would not be any grades nor examinations—but there would be an exhibit at the end of the training period. Such a program would give the students a period in which they would plan their own program and do some creative thinking of their own. Such activities may be called "Summer Exploratory Programs." The students could select one, and not more than two areas for exploration. For example, a student might select a shop activity in the morning, and a recreational activity in the afternoon. There would be no special classes; instead, the students would be grouped according to interest; age and sex would not make any difference.

To do this, our shops, laboratories and all school facilities should be improved and enlarged (in many instances), but it appears that it would be much cheaper and less suffering would be involved if more thought were given to the training of our youth, rather than enlarging our police forces and building larger and more institutions of correction. The old saying is true—"An idle mind is the devil's workshop."

Reduce Dropouts

When we build our school program around the interests and needs of the students, we will reduce the number of dropouts. We do not need a program for dropouts as badly as we need a program to

Purposes of the Supervised Practice Record Book

Primary Purposes:

- Serves as a guide for occupational planning, analysis and choice
- Provides a basis for evaluation of learning, accomplishments and replanning

Contributory Purposes:

- Promotes the development of attitudes of "planfulness."
- Aids in developing knowledge of the "planning process."
- Aids in developing record keeping abilities and skills
- Provides a means for cooperative planning and evaluation
- Aids in self appraisal of vocational objectives
- Aids in determining financial progress and student's net worth
- Serves as a record of agreement between all persons concerned

Definition of Terms

SUPERVISED PRACTICE IN AGRICULTURE — Supervised practice in agriculture consists of all learning experiences, *related to instruction,* which require development beyond the normal school hours and class facilities. It may consist of one or more of the following:

- SUPERVISED FARMING: Supervised farming is a part of supervised practice. It consists of learning experiences involving managerial responsibilities and operational skills which are developed on a farm and in connection with the production and marketing of livestock and/or crops.
- OCCUPATIONAL EXPLORATORY EXPERIENCES IN AGRICULTURE: These experiences consist of a broad spectrum of short-term learning activities in various agricultural occupations. The primary purpose is orientation to the occupation rather than development of occupational competencies.
- OCCUPATIONAL WORK EXPERIENCES IN AGRICULTURE: Occupational work experiences in agriculture consists of long-term, somewhat formalized, student employment for the purpose of developing occupational competencies.

Vocational Agriculture Supervised Practice Plans and Records. North Carolina Record Book, 1965.

until he is 16. The program in the school holds him until he is trained for employment. A large number of "average" dropouts could be the ones to develop the machinery that will take us to the moon.

It appears that too much emphasis has been placed on the small percentage who go to college. Our labor force on all levels, as well as the unemployed, will come from those who fail to enter college. It appears, then, that we should gear our educational program more to the latter group.

Rural youth, and especially those who live in our small towns, suffer from handicaps of social and economic deprivation. These students need a more diversified education—an educational program that will provide participation experience in the *world of work.* This becomes apparent as we observe the annual loss to this nation of the useful potential of many of our young citi-

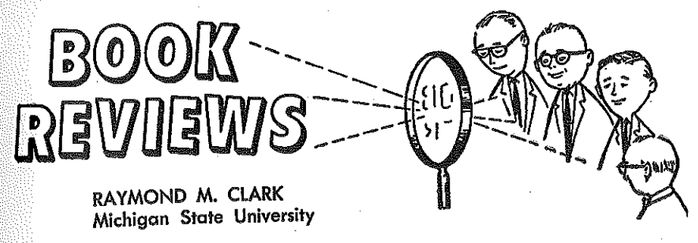
The following is quoted from Public Law 88-210, 88th Congress, H.R. 4955, December 18, 1963—Part A—VOCATIONAL EDUCATION:

Uses of Federal Funds

Sec. 4

(6) "Ancillary services and activities to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities."

From the above quotation, it appears that provision is made for any type of practical or exploratory program such as I have attempted to project.



RAYMOND M. CLARK
Michigan State University

Haugen, Edmund, *Mister/Madam Chairman . . . Parliamentary Procedure Explained,* Augsburg Publishing House, Minneapolis, Minnesota, 1963, 65 pages, Price $1.75.

This compact, plastic bound book has been developed, as the author states, to serve two purposes: to assist a presiding chairman in conducting a meeting and to be used as a manual of instruction in parliamentary law.

A unique feature of the book is that good use has been made of colors for main headings and subheadings. Any user can with little effort become familiar enough with the sequences of the headings of the book to make it a quick and ready reference as parliamentary procedure questions arise.

The subject of parliamentary procedure is well covered. Explanations are clearly stated and examples generously used. Even the writing of resolutions is included.

Of special interest to teachers is the description of the construction and use of a flannelgraph which may be synchronized with the manual.

C. Oscar Loreen
Washington State University

Yeates, N. T. M., *Modern Aspects of Animal Production,* Butterworth and Co., Ltd., 7300 Pearl Street, Washington, D. C. 20014, and London, England. 1965 Pages vii plus 371. Price $17.50.

Modern Aspects of Animal Production is based on the lectures from courses in animal husbandry by Professor Yeates at the University of New England, Armidale, N.S.W., Australia. The book is organized in four parts: Reproduction. The Influence of Climate, Meat, Wool.

In reading the book we were impressed by the vast amount of research work which was cited, and which was brought to bear on the subject. At the same time the text was easily read. Advanced high school students and community college students studying animal husbandry should have no difficulty reading the text, except for possible new terms which they will need to learn.

Raymond M. Clark
Michigan State University

Ulich, Robert, *Education in Western Culture,* The Professional Education for Teacher Series. Harcourt, Brace and World, Inc., New York, 1965, pp. 136, paperback, price $1.75.

The writer of another book has recently said, "the colonists did not come to North America with the purpose of establishing a new type of school system," nor did they immediately survey sites for schools. Yet they did establish the foundation for the institution of public, mass education that has come to characterize America contribution to the history of education. The American system has been modified repeatedly to meet the challenges of each new frontier and changing social condition. The system of public education developed in America was shaped by the traditions that survived over the centuries. *This Role of Education in Social History* is what the author seeks to interpret and it also is the title of his first chapter.

Mr. Ulich summarizes the role for present society when he indicates that "the importance of schools is increasing constantly all over the world. Never before were they so much the guardians, sometimes also the challengers, of cultural heritage; never before have they formed the life and character of youth and even of adults as much as in our time, when the influences of family, church, community, and apprenticeship are constantly decreasing. Furthermore, with the rapid formation and rise of new nations . . . schools are no longer merely the transmitters of heritage. Rather, they are actors in revolutionary constellations. He also examines the Greek, Roman, Jewish and Christian foundations of education; education for Hierarchy (Middle Ages), education for Individuality (Renaissance), education for Communion (Seventeenth Century), education for Independent Thinking and the Effect of the Rationalist Attitude on the American Concept of a Free and Pluralistic Society.

Chapters eight and nine depart from this general historical theme. The author traces the history of two specific ideas: *Education for information* and *education for the state.* "Education, then, in contrast to all that has been demanded by the great teachers of mankind and by the much-blamed progressive movements, becomes a matter of mere training, schooling and information-gathering." The final chapter is titled *Education for the Future.* Mr. Ulich raises this question of the future from a somewhat existentialistic framework.

Professor Ulich is Professor Emeritus, Harvard University.

John F. Thompson
Michigan State University

ON LOOKING AT OLD PICTURES

Today I've been looking at pictures
That were taken of me years ago.
When I thought that the world was my oyster,
And I knew all that there was to know.

When my face didn't look like a washboard
And my hair wasn't faded and gray;
When the sun always shone and new problems
Gave piquance and spice to each day.

Now I'm achey and shakey and tired.
And graying and creaky and bent.
The get-up-and-go that I had long ago
Sometime ago got up and went.

Now newsprint to me seems much smaller
And stairs are much steeper by far.
When pretty girls smile at me archly
It means only my zipper's ajar!

Yes, bugles, bifocals and bridgework
Form a cross that I now have to bear
And though the old spirit seems willing
The flesh badly needs some repair.

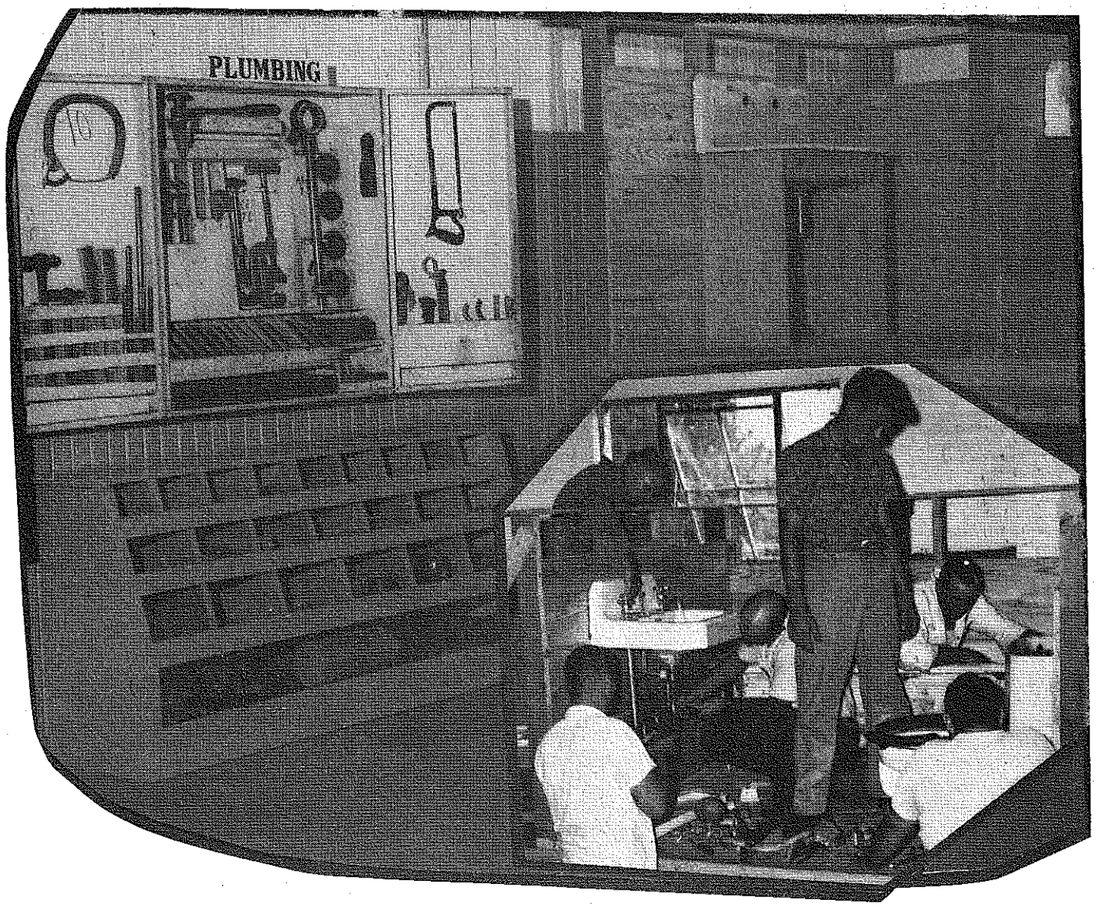
I suppose that all this had to happen
But tell me now, ain't it a shame
That when you reach the age that you know the score
You're too old to stay in the game?

—S. S. Sutherland

Agriculture instructors received instruction on the actual process of picking tomatoes. Also, how boxes should be laid out and vines handled for most rapid picking and that vines receive proper care so a second and third crop can be obtained. (MDTA Pilot Program, Davis Unified High School District, University of California.)

Stories in Pictures

Gilbert S. Guiler
Ohio State University
Columbus



Basic principles and skills in plumbing are taught in Mississippi Vo Ag shops by the "whole job" approach. In inset, Vo Ag teachers are installing plumbing

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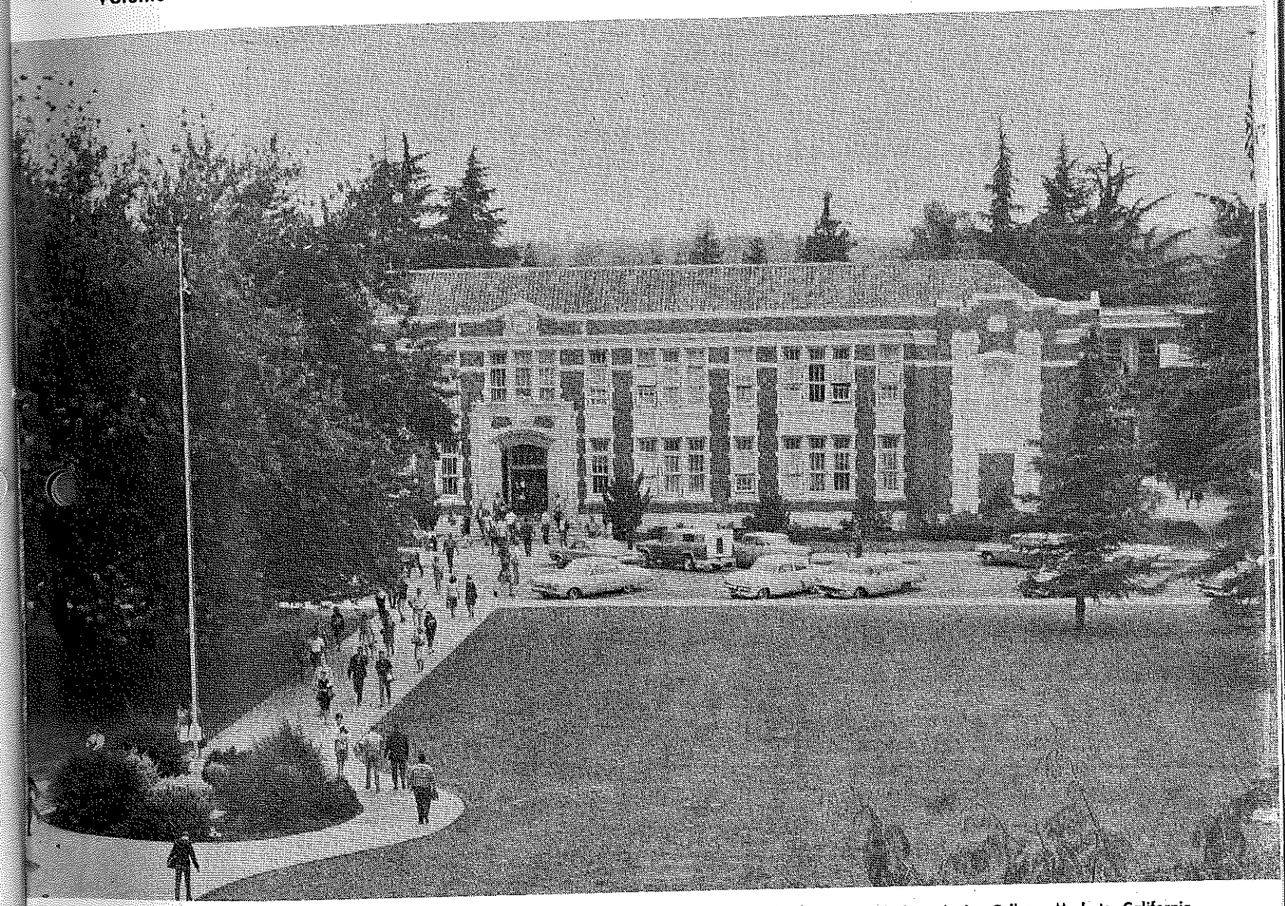

One of the main buildings on the campus of Modesto Junior College, Modesto, California.

Featuring—

Agricultural Education in Community Colleges