Stories in Pictures

Gilbert S. Guiler
Ohio State University
Columbus

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

Plumbing

Best principles and skills in plumbing are taught in Modesto Vo-Ag shops by the "hands on" approach. In turn, Vo-Ag teachers are installing plumbing for the "hands on" approach. (OSU Pilot Program, Davis Unified High School District, University of California.)

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

Featuring—

Agricultural Education in Community Colleges
Editorials

In Between

When the theme for this month’s magazine was decided upon, the Editor did not realize the site of two factors involved; that is, the prevailing situation with respect to Agricultural Education in Community or junior colleges. These two factors are (1) Scope of programs in agriculture in these institutions, and (2) Lack of any central office or other means of pulling together what is being done in the area of agriculture in these institutions throughout the country.

The scope of programs in agriculture varies from nothing to very elaborate and highly technical programs. The best research we found in this area was that of Neil Soppe’s doctoral study at Ohio State University. Neither here nor anywhere else was we able to find an article on the subject of agriculture in these institutions. Perhaps a professional organization of leaders in this field will develop. Upon inquiry, the following statement was received from the American Association of Junior Colleges:

“Nothing has affected farming as it all other industry. Mechanics and machine operators have increased demand for men and women who can operate the machinery, carry on the business, manage the operations of the great agricultural industry. New programs of education and training should be developed to provide personnel for this important field.”

“The community college is ideally suited to provide education beyond the two-year college that will provide necessary training and education in agriculture. With its cooperation in the community it serves, its emphasis on extending the rural community.”

It is hoped that those who are interested in this subject will write the editors for further information on this subject. It is hoped that those who are interested in this subject will write the editors for further information on this subject.

The effect of this theme on the editorial efforts of this magazine will be considered in the future. This is not an editorial, “What is Sex Education?” It’s 1968 and we still don’t know?

Notice that the Editorial has this month answers your editorial question on these pages in November. “What is Sophisticated Research?” Doug Towne, Cornell, uses some of articles in this issue to make his point. You may not agree with his answer, but you will agree that he has some views on what he read in the November issue. That makes getting out a professional magazine seem worthwhile.

Congratulations to Jim Durbeck, Laramie, Wyoming, now president of NVATA. I had the pleasure of working with Jim on a committee a few years ago and found him to be a fine thinker and doer. The April issue of this magazine will feature the NVATA.

Special note to teachers: I base the old reliable graphophone that some of you want more articles by teachers, good idea. Me too. Make your articles of more than local interest. Here’s a good test to give yourself: If this article were sent to you by a teacher in another state, would you read it? Names of FFA officers or members of an adult group, the heart of a local article, are of little value in a national publication. What is the key idea you want others to get?

Agriculture is more than farming. This statement has been used so much that it becomes a truism — at least to many of us. But, are we willing to add that agriculture is more than vocational agriculture too?

Subscriptions price, $3.00 per year, payable at the Iowa Agricultural Education Magazine, 140 N. 10th Street, Ames, Iowa. Letters and manuscripts of 100 words or less will be considered for publication, subject to limitations of space and editorial judgment. Manuscripts not accompanied by postage will be returned only if accompanied by a self-addressed, stamped envelope.

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March, 1966

Number 9

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The Agricultural Education Magazine, March, 1966

Agriculture Programs in Community Colleges

NEIL O. NEPP, Visiting professor, West Persian Agricultural University, Lyrallar (Washington State University)

Teaching of vocational agriculture is well aware of the tremendous changes that have taken place in recent years. This change has been the result of their progression from a program in the community college that was essentially a vocational agriculture program. We have been able to develop a curriculum that is more realistic and more responsive to the needs of the students. This curriculum is based on a carefully planned program of study designed to meet the needs of the students.

What is It Not

One possible approach to clarifying a particular term is to state what it is not included in the term used. Let us consider some of the terms which appear in the same context as the theme of which "Research" is an example, to clarify what it is not to be considered a research program. The authors writing on the topic of research, such as authors who are discussing the theme of research, have found it useful to consider the following.

1. "Research" is not synonymous with systematic or non-systematic. "Research" is a term that has been used in a variety of ways and for a variety of purposes. There are, however, some fundamental differences between what is called "research" and what is not. "Research" involves the evaluation of a large body of information and the identification of patterns and relationships within that information. "Research" does not involve the collection of data or the analysis of results. "Research" involves the evaluation of research findings and the application of those findings to real-world situations.

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(Continued on page 206)
The Birth of a Program

HAROLD F. ENGLERING, Supervision, Springfield, Illinois

For an instructor that was a specialist to this area as well as in diesel equipment. Consequently, the decision was made to employ two instructors who had had recent and adequate experience as farm implement mechanics and two instructors who were outstanding vocational agriculture teachers, especially as their instruction related to farm mechanics. The names and work experience of the four instructors conducting this program are as follows:

1. Earl Hill - M.Ed. - 17 years experience as a vocational agriculture instructor.
2. Edgar H. Kohner - 4 years experience as a heating equipment and diesel instructor for U.S. Army Engineers. He has had 10 years experience as a mechanic specializing in hydraulics.
3. Harold Huber - M.S. - 15 years experience as a vocational agriculture instructor.
4. E. E. Baehr - 14 years experience as a farm implement mechanic and 10 years experience as the owner of a farm implement business.

The Qualifications of Prospective Students

All students accepted were required to take a comprehensive mechanical examination, but can be recommended by their vocational agriculture instructor or guidance counselor. Over 170 interested students made application for the program and from this group forty-four were accepted for training the program.

Training Stations

Information relative to the new program was disseminated by the Illinois Retail Farm Equipment Association and others. At present, over fifty farm implement dealers have indicated they would like to be selected as a training station. This phase of the program does not start until March and serving adequate training stations will be no problem. The problem is selecting the best ones from those dealers that have indicated an interest in the program.

The Building and Equipment

This program is conducted in a building with two classrooms, library, conference room, office, bulletin board, and a large shop.

The first advisory council meeting was held January 11, 1995. Regular monthly meetings have been held since this date. A review of the minutes of the advisory council reveals some interesting, thought provoking and "brainy" problems that were discussed at meetings. A brief summary of some of the problems discussed follows:

1. The need for farm implement mechanics, local, state and national.
2. The kind of instructors to employ for this program.
3. The qualifications of prospective students.
4. Setting up training stations for the supervised experience program.
5. The size and type of building needed for this program.
6. The tools needed.
7. The course outline.

Our story will reveal how the advisory council and the Canton school officials solved the above problems and others of like nature.

The Need for Farm Implement Mechanics

A local survey indicates that practically every implement dealer needed at least one mechanic. Approximately 500 farm implement mechanics are needed in Illinois and it has been estimated that 15,000 are needed nationwide. The average age of the farm implement mechanic in the labor force today is 49 years.

The rapid rise in hydraulic systems on new farm machinery clearly indicated the need for more instructors that was a specialist to this area as well as in diesel equipment. Consequently, the decision was made to employ two instructors who had had recent and adequate experience as farm implement mechanics and two instructors who were outstanding vocational agriculture teachers, especially as their instruction related to farm mechanics. The names and work experience of the four instructors conducting this program are as follows:

1. Earl Hill - M.Ed. - 17 years experience as a vocational agriculture instructor.
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The Building and Equipment

This program is conducted in a building with two classrooms, library, conference room, office, bulletin board, and a large shop.

Every student has been given the option of paying each month or using the monthly payment plan for the purchase of their own tools. The tools were offered to the students at the school cost of $15,000. Five students are setting their tools, two are busy on the installment plan and twenty-six students paid cash for their tools on the first day of school. The shop is well equipped and compares favorably with a medium farm implement shop. In addition to this type of equipment, fourteen tractors have been parceled out by the school for the instructional program.

Every student spends five hours each day, five days a week in the classroom and shop on units included in the above course outline. In addition to this, courses are offered each semester in farm implement mathematics, agriculture economics, farm implement accounting, and farm implement sales.

Conclusion

This program has made an excellent start. This good beginning is due to:
1. A wise-minded school administration.
2. An effective and active advisory council.
3. The selection of superior instructors.
4. Careful and long range planning by all people concerned with the program.

The program at Canton is under the direct supervision of Mr. Edwin Fitzgerald, Director of Technical and Vocational Programs, Mr. Fitzgerald says.

In a free society, adults, even young adults, may refuse to participate in programs in which they are not interested, or that are incompatible with their life goals, so it is not the purpose to be successful. All around us, we see vast numbers of young adults standing this choice regarding the so-called "stupid" curricula of post high school education. Assuming that our young adult has acquired the minimum cultural and citizenship skills in high school, he should have a reasonably wide choice of curricula from art to woodworking. And if he doesn't work in the curriculum should be planned with care and thoughtfulness. It is possible that it should not be the sum total of academic and vocational training but the sum total of all after-hours activities.

THE COURSE OUTLINE

First Year
1. Orientation
2. One-cylinder engines
3. Tractor mechanics
4. Tractor overhauls
5. Cylinder head and component parts

Second Year
1. Supervised work experience with assigned farm implement dealers - Oct. 4th - 11th (18 weeks)
2. Farm machinery assembly - (amendable to building)
3. Supervised work experience with assigned farm implement dealers - Sept. 6th - Oct. 29th (8 weeks)
4. Complete overhaul of power train - Oct. 31st - Nov. 28th (8 weeks)
5. Complete overhaul of tracktor (including diesel) and agriculture machinery organization and management - Jan. 1st - Apr. 25th (8 weeks)
6. Electric motor, the adjustment, maintenance and repair of oil well equipment - Feb. 25th - Apr. 28th (8 weeks)
7. Agriculture equipment selection, trouble shooting and the adjustment, maintenance and repair of grain handling equipment - Apr. 28th - Jun. 4th (8 weeks)

Students, instructors, and advisor are shown glossed and ready for work. In the shop at Canton Community College.

Harold F. Engplinging (Continued from page 198)

Harold F. Engplinging (Continued from page 198)

Harold F. Engplinging (Continued from page 198)

Harold F. Engplinging (Continued from page 198)
The Testing Laboratory, a Valuable Aid for Training Ag Technicians

G. Allen Sherman, Dean of Agricultural Science and Home Economics
Mt. San Antonio College, Walnut, California

The Approach

In order to develop such a training program, it was necessary for the staff to spend a great deal of time in determining a good educational approach to the subject. The first consideration was the extent of the need for such training. The growing need for technicians to aid in both government and commercial testing agencies and laboratory organizations. But, how can one determine the need? The fact that the majority of the testing is done after the product leaves the farm does not necessarily mean that what is done below should not concern the farmer. It is gaining more and more difficult to distinguish between the farmer and the processor. In many of today's integrated farming set-ups, both are the same person or firm. Farming grows crops or other products under contract are closely supervised on such matters as soil preparation, type and time of seeding, irrigation practices, and harvesting time and methods. More on-farm processing is being developed. The farmer today needs to know and use many of the tests and procedures as they vitally affect the price he receives for his product. Knowledge of the results of such testing also can be very useful in planning and running his farming operation. With many of his products being involved in interstate commerce, it is necessary for him to know grades and standards in the other states where the marketing is done.

Today it is difficult to name any agricultural product which is not subjected to testing. Grades, standards, and specifications are a vital part of our complex marketing system. Training students in the various phases of testing procedures is now an important part of the agricultural technician program at Mt. San Antonio College.

The Training

Training would include buyers or technicians who work with buyers of farm products. Many products are now ordered by phone and shipped across the country without the buyer having to see the product. Buying power is becoming more concentrated with fewer buyers, such as those employed by large chains, buying in large quantities. These buyers are interested in a uniform product for their various stores. Over a period of time, they will buy where they can get the assurance they will receive the standard quality of product they require. It is doubtful if our nation’s marketing structure could have progressed as far as it has without the use of the various testing and grading procedures which have been established.

Facilities and Curriculum

After determining the extent of the need, the next consideration in the establishment of the training program was the planning of the facility and curriculum. Many visits were made to commercial labs to see what tests are used and the equipment that is necessary. Those machines and devices which were considered to be practical from the standpoint of cost and efficiency were listed for purchase. In some cases, groups of machines were obtained in order to demonstrate principles of operation. A fully realized that machines will change and improve with time, but many of the concepts will not. We feel that students should learn the reasons and concepts of the use of the machines and the practice of systematic procedure, as well as the actual manipulative skills of operation. Follow-up and reporting of the test results is also a vital part of the training.

The laboratories at present contain a wide variety of equipment. They include all testing equipment to the extent that can be purchased within the budget.
Universals and Unique Competencies Needed by Ornamental Horticulture Workers*

By ROY DILLON, Morehead State College, Kentucky and LLOYD J. HIPPIS, University of Illinois

In designing courses of study for workers in ornamental horticulture businesses, it is important to ascertain the universals, knowledge and skills needed by all workers, as well as the unique knowledge and skills needed for each of these jobs.

To obtain evidence relating to the universals and the unique knowledge and skills needed, a random sample of eighty workers in licensed nurseries and eighty workers in licensed ornamental horticulture businesses were interviewed.

After analyzing the data obtained, it appears that both basic courses or units, and specialized courses or units, are needed by all workers.

The basic courses or units must include general horticulture as a prerequisite for all horticulture jobs. The specialized courses or units must be needed by the major group of workers and be related to the work they do.

These courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. For completion of these courses or units, a person should be qualified as a salesperson in a licensed nursery in a licensed ornamental horticulture business. These courses or units are Horticulture I, II, and Basic Horticulture I, II, Basic Horticulture I, II, Basic Agricultural Chemistry, Basic Soils, and Basic Soils I.

Three advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture II, II, and Specialized Horticulture I.

Two short specialized units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture III, and Specialized Horticulture II.

Two four-credit courses are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture IV, and Specialized Horticulture III.

Two specialized units are recommended for persons desiring employment in an ornamental horticulture business. These courses or units are Specialized Horticulture IV, and Specialized Horticulture V.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture V, and Specialized Horticulture IV.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture VI, and Specialized Horticulture V.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture VII, and Specialized Horticulture VI.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture VIII, and Specialized Horticulture VII.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture IX, and Specialized Horticulture VIII.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture X, and Specialized Horticulture IX.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XI, and Specialized Horticulture X.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XII, and Specialized Horticulture XI.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XIII, and Specialized Horticulture XII.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XIV, and Specialized Horticulture XIII.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XV, and Specialized Horticulture XIV.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XVI, and Specialized Horticulture XV.

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Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XIX, and Specialized Horticulture XVIII.

Two advanced courses or units are recommended for persons desiring employment in a licensed nursery or in a licensed ornamental horticulture business. These courses or units are Horticulture XX, and Specialized Horticulture XIX.
Teacher Adoption of a New Concept

TEXTON MILLER, N. C. State University, Raleigh

An educational system must adapt continually to the new needs and demands of society. Of course, this is easier said than done. For the most part educational change has come about slowly. "The mill of the gods grinds exceedingly fine." This methodology might be used to describe how instructional programs and, by some, to justify its speed. But these are times of accelerating patterns of change and there is a tremendous incentive to speed up the change process in education. New and expanded efforts are being channelled to the study of change, the process of idea adoption, and the factors associated with change. Witness the recent national project on Strategies for Educational Change seeking a systematic approach to the study of planned change. Much is yet to be learned about the process and procedures for change and how well education is far more of academic interest. It is in this framework of concern and interest about the change process that in 1965 a research study was made of teacher adoption of a new concept of supervised practice. The specific purpose was 1) to discover the extent to which teachers of agriculture in North Carolina had adopted a new concept of supervised practice and 2) to determine whether changes were correlated with the adoption levels related to the presented study.

The Adoption Level Instrument

A special instrument was developed to measure the levels of teacher acceptance of the new supervised practice concept. Adoption-level theory was the basis for the design. Recognized authorities stated that adoption of any process is a procedure with identifiable stages generally classified as: (1) interest, (2) evaluation, (3) trial, (4) adoption. This theory is important because it suggests that adoption levels of new ideas, such as the new instruction method, are key factors in the study of teacher acceptance. (See Figures 1 and 2.)

Fig. 1. Correlation between factors and Teacher Level of New Concept

In broadest terms, the conclusions reached were those

1. Teachers were making appreciable progress in adopting a new concept of teaching supervised practice. A "progress group" is increasing in size and breadth as the new idea spreads.
2. Adoption levels of the new concept vary with the stage of adoption of the practice by the recipient.

New Concept Defined

The new concept of supervised practice was developed by a joint committee of staff supervisors, personnel and teachers. The committee was organized in order to select their supervised practice activities from the broad field of agriculture, rather than to limit them to production agriculture only. In this study, the new concept showed a correlation value of 90% with the "acceptance of the new concept." offered the "total teaching practices" as the basis for the survey. The new concept of supervised practice can be described as follows: (1) "teaching practices," (2) "teaching practices," (3) "teaching practices," (4) "teaching practices," (5) "teaching practices," (6) "teaching practices," (7) "teaching practices," (8) "teaching practices," (9) "teaching practices," (10) "teaching practices," (11) "teaching practices," (12) "teaching practices," (13) "teaching practices," (14) "teaching practices," (15) "teaching practices," (16) "teaching practices," (17) "teaching practices," (18) "teaching practices," (19) "teaching practices," (20) "teaching practices," (21) "teaching practices," (22) "teaching practices," (23) "teaching practices," (24) "teaching practices," (25) "teaching practices," (26) "teaching practices," (27) "teaching practices," (28) "teaching practices," (29) "teaching practices," (30) "teaching practices," (31) "teaching practices," (32) "teaching practices," (33) "teaching practices," (34) "teaching practices," (35) "teaching practices," (36) "teaching practices," (37) "teaching practices," (38) "teaching practices," (39) "teaching practices," (40) "teaching practices," (41) "teaching practices," (42) "teaching practices," (43) "teaching practices," (44) "teaching practices," (45) "teaching practices," (46) "teaching practices," (47) "teaching practices," (48) "teaching practices," (49) "teaching practices," (50) "teaching practices," (51) "teaching practices," (52) "teaching practices," (53) "teaching practices," (54) "teaching practices," (55) "teaching practices," (56) "teaching practices," (57) "teaching practices," (58) "teaching practices," (59) "teaching practices," (60) "teaching practices," (61) "teaching practices," (62) "teaching practices," (63) "teaching practices," (64) "teaching practices," (65) "teaching practices," (66) "teaching practices," (67) "teaching practices," (68) "teaching practices," (69) "teaching practices," (70) "teaching practices," (71) "teaching practices," (72) "teaching practices," (73) "teaching practices," (74) "teaching practices," (75) "teaching practices," (76) "teaching practices," (77) "teaching practices," (78) "teaching practices," (79) "teaching practices," (80) "teaching practices," (81) "teaching practices," (82) "teaching practices," (83) "teaching practices," (84) "teaching practices," (85) "teaching practices," (86) "teaching practices," (87) "teaching practices," (88) "teaching practices," (89) "teaching practices," (90) "teaching practices," (91) "teaching practices," (92) "teaching practices," (93) "teaching practices," (94) "teaching practices," (95) "teaching practices," (96) "teaching practices," (97) "teaching practices," (98) "teaching practices," (99) "teaching practices," (100) "teaching practices."
National Office of Education

The teaching staff. Teaching certificates were required by three-fourths of the colleges and "suitable occupational experience" in the remaining one-fourth. There appeared to be a trend toward having all instructors hold advanced degrees.

In most cases, the faculty had heavy teaching loads averaging over 25 hours per week. The student-teacher ratio ranged from 16:1 to 50:1. Those colleges which reported the highest class load per week and the highest student-teacher ratio were those with low enrollments and the fewest staff members.

Curricula Available

A wide variety of agricultural curricula were available to students. There were 28 different curricula reported under transfer programs which was greater than that indicated by the college catalogues. There were 29 terminal technical and commercial programs available. All of the curricula required courses in general education, with two-thirds requiring more than 40 credits. The curricula included approximately 75 percent general education. Terminal technical curricula consisted of credit hours in general education and 60 percent agricultural courses.

The economic (agriculture) technical curricula were highly structured, highly specialized, and contained practices for animal husbandry and crop production courses.

Typical curricula provided almost no choices of electives for the student. Transfer programs usually provided the most opportunities for electives for the student. There were often coordinated with the lower division requirements of the state universities.

Work experience in the students' major field was a typical requirement. Credit was usually given for this experience.

Facilities and Outlook

The kinds of facilities used by junior colleges to teaching agriculture were what one would normally expect-experimental farms, laboratories, land and livestock. The majority of the colleges indicated that they were well-equipped with facilities, adequate financial support, and proper state agencies. Two-thirds of the respondents listed the minimum academic qualification for staff. The remainder were equally divided between requiring a Doctorate and a Bachelor's degree. Sixty-five percent majored in agriculture with higher school teaching experience in addition to the advanced degree. Nearly all would require a regular or special teaching certificate.

A maximum teaching load of 18 class hours or less per week was considered desirable by the majority of respondents. The student-teacher ratio should not be less than 25:1 with the average response being 20:1.

Opinions concerning desirable admission standards for students were essentially the same as those described in high school graduation requirements. A completion of at least one semester of English and at least one year of science courses were considered essential as educational and professional qualifications of the legislature.

Conclusions and Guidelines

On the basis of the data received certain conclusions were made and guidelines formulated.

1. The junior or community college can provide the type of educational programs needed by a rapidly changing agriculture.

2. The curricula should be developed on the basis of the needs of the agricultural industry. The curricula should be designed to meet the needs of the state's junior college programs. The curricula should be developed in cooperation with the senior junior college programs.

3. Agricultural teachers should be selected as separate faculty members with the major responsibility for program development and should consult and cooperate with other agricultural teachers in the state. Cooperation in a way is essential.

4. The agricultural staff should consist of at least six full-time teachers of comprehensive programs or higher and have had previous teaching experience.

5. The minimum salary for full-time equivalent agricultural faculty should be $100. This is a conservative figure but there is ample evidence to indicate that such salaries are needed for educational programs.

6. State fund for operating expenses should be allocated to agricultural education programs.

7. An organized public information program should be organized and maintained in order to acquire full understanding of the role of agriculture in the community college.

ALABAMA VO AG TEACHERS
ATTEND SMALL ENGINES WORKSHOP

L-R are Alabama Vo Ag Teachers William White, Earl Godfrey, D. P. Davis, Charles O. Dees. (Photo - Butternut)
Guidance or Recruitment? Some Reinterpretations

J. ALEX HAHN, Teacher Education, Clemson University

One in the agricultural profession hears a great deal about the shortage of college graduates in agriculture. Therefore, since the general public has a misconception of the vast number of people the total agricultural employment, it is becoming increasingly difficult to interest young men in an agricultural career. The problem appears to be one of improper communication between colleges of agriculture and the high schools where the raw material or potential lies. However, in this day of space exploration and rapid advances in science and technology, the glamour and eye-catching appeal seems to reside in the fields of engineering, science, and mathematics.

Method of Attack

First, enlist the cooperation of the high school guidance counselor and teacher of vocational agriculture. This is a step that is not done. Primarily because a poor relationship exists between these two individuals in many of our high schools today. The agriculture teacher may suspect the guidance counselor of stealling college-bound students into his classes, he is, in an excellent position to provide guidance in agricultural careers through specific units on the broad field of agriculture. His role is to provide an evaluation of the vast dimensions of agriculture and counsel with his students on educational and occupational planning in a non-directorial way. If proper rapport exists with the guidance counselor, the teacher can serve as a consultant during Career Days or Group Conferences. In this way, he can reach students who are unable to reach through his classes.

Providing Occupational Information

From the observations and experiences of the writer, there appears a dearth of "good" occupational information on teaching agriculture in college. There has been no concerted effort to date to time by different organizations and agencies to correct this deficiency but the need for such a service is obvious. Many times the members of our profession wonder why guidance counselors do not use the occupational information that is supplied by the agricultural colleges. This answer is quite simple—the majority of the material on agriculture is not available in print. Therefore, all new guidance counselors are not well informed on agricultural professions and glamorous jobs vastly needed. Without mentioning any disadvantages, theime of the guidance people has been to reject this barrage of biased material as propaganda, but more logically overlooked is the truth contained amidst the high-pressure salesman approach. Of course, agricultural professions are sold to some glamour but we must remember that the guidance counselor's job is not to recruit for agriculture or any other field. His primary responsibility is to present various alternatives to his clients and let them make a final decision depending on his counseling ability. The capable guidance counselor evaluates occupational information before passing it on to students. The best way to offset adverse publicity is to provide factual, irrefutable evidence of an unbiased nature.

SWEET SUPECRD PRACTICE IN SOUTH CAROLINA

5. Provide sufficient flexibility in high school vo-ag course offerings to allow for scheduling college prepa rapy subjects.
6. Point out that farming and agriculture are not synonymous terms. The increase in job opportunities in off-farm agricultural occupations has more than offset the decrease in on-farm employment.
7. Strive to develop and maintain harmonious working relationships with the guidance people. Take advantage of their services by obtaining psychological data on agricultural students and through student referral for special counseling or remedial work.
8. Obtain suggestions from guidance counselors and administrators of the differences and/or expand course offerings in vo-ag at the local level.

It is belied that these steps, if implemented, will pay dividends in providing an improved plan to solve the shortage of college graduates in agriculture. If we must "pull" their coat, let us conduct it ourselves and call it recruitment instead of trying to push it up and call it education. We have assigned guidance counselors of equating farm- ing and agriculture. If we are to have the quality of using guidance and recruitment interchangeably without really being...
Adult Farmer Training in M.D.T.A.

LLOYD KUTTEDDLE, Supervisor (Agricultural Specialist) 

Manpower Development Program

In July, 1963, the first Farm Management Program under the provisions of the Manpower Development and Training Act began at Yorkville, Tennessee. Twenty small and medium sized farms owners were enrolled in the program which was to run for one year. All had dependents and all showed a desire to get away from poor farm income on their $622 income returns. The program was restricted to those who did not own enough land and had to rent some to make a practical farming operation.

The course of study began with a study of the factors which affect farm income and how they applied to the situation of each man in class.

Surveys were made to determine what each man had to work with and how it could best be used. Soils were studied intensively and soil maps were made and the cooperation of the Soil Conservation Service was enlisted in this work. Two trips were made, in groups, to study and to be worked by each man knew what soils they had on their farm and what crops they were best adapted to produce.

With the aid of the S.C.S. farm planner and the instructor, each man made a long range farm plan to fit his property. Then, when the land use plan had been determined, a livestock program was planned to fit it.

Estimates were made of the cost of all changes to be put into effect, and these, with the estimates of probable production, gave each man an indication of his approximate net income from his revised farm plan. Production data were gathered for each farm, and fertilizer and lime requirements were calculated to reach these goals. Almost all the soils were tested by the state soil's laboratory or other testing agency. In addition, studies were made of insect and weed control, cultural methods, various crops, and how they worked on a practical basis. Production were studied and adapted to each man's own situation.

When farm plans were completed, the State A.C.S. Committee allocated the additional funds through the A.C.T. program to help put the land use programs into effect.

A partial list of practices carried out in the first year:

- 185 suck tests made on 353 acres
- 124 tests of beef of 302 acres
- 124 tests of chicken
- 113 tests of fertilizer applied on 353 acres
- 315 acres seeded
- 219 A of cotton, 60 A of corn and 40 A of sorghum
- 3,713 bushels of corn, 5,141 bushels of cotton, 1,500 bushels of soybeans, 2,400 bushels of seed cotton
- 500 head of cattle
- 8 acres of cultivated land
- 15 miles of fence new fenced with a barbed wire
- 255 acres of pasture fertilized and reseeded

The average net worth of each man increased $3,170 in the period 1962-1964.

The average increase in farming for this group was $30,000. The average personal increase was $1,816.

The men had an excellent attitude and were very conscientious about the program. Class attendance averaged 97.5, and five men did not miss a meeting during the first year's period total programs and had to be dropped. Nineteen finished the training.

The men seem to prove that adult farmer education can improve income and raise the standard of living enough to enable that people to stay on the farm. Many of these men have worked in town but they did not want to stay there if they can make a decent living. Here is a real challenge to the Vocational Division of the Tennessee Valley Authority and the Tennessee Electric Membership Corporation and others.

Records taken from 1962 and 1964 income tax returns show the following for the entire class:

- 1963 Increase
- Gross farm income: $86,841
- Farm expenses: $72,405
- Income less expenses: $14,436
- Depreciation: $10,012
- Net farm income (TOTAL): $4,424
- Average net income per man: $1,854

(*One man had $82 in net increase over 1963, but this was not the goal of the class. Eleven more made over $1,250 net in 1964.)

Examination Time? – Some Suggestions

By ALLEN C. CHRISTENSEN, California State Polytechnic College

Over the years teachers of agriculturists have pondered themselves in the use of a most effective method of teaching, problem solution. The problems that are encountered and particularly in the supervised farm activities involved causing thinking and practicing the solution of the problem in a group. Yet, at the same time, many teachers who have used this excellent method of teaching have realized the need for solving the problem at examination time to pure recall of isolated facts. In returning to normal, the student would need an excellent teaching opportunity this last. Paper is written as a suggestion as to how teachers might make best use of the examination as a teaching aid.

Suppose, for purposes of discussion, that we are presenting an institutional unit in the animal science area. Such topics as breeding, feeding, management, and diseases of livestock have been covered. Students have been encouraged to learn to recognize problems and, hopefully, upon consideration of all facts and alternatives make a satisfactory decision as to the course of action to be taken. Now the time comes to test the knowledge obtained during the program of studies. There is the problem to solve. How can teaching sessions that have shown that more than just recall of facts, the instructor then might problems similar to the following:

- What is the gestation period of a hog?
- Which of the following vitamins is not synthesized in a cow's body?
- Vitamin A
- Thiamine
- Riboflavin
- D"'

- A Bengi disease will cause your cow to abort in the eighth or tenth month.
- True or False

These questions are easy to grade and allow for evaluation of student understanding in a large area of student knowledge. However, they are memory questions.

Recall questions have some merit; however, in agricultural education we have had in the past an occupational orientation philosophy. Why not let this philosophy carry over to one class of students? For example, in the case of the preceeding questions the student could be put in a group and asked to solve the problem. Consider question one. It might be asked this way:

You are a registered Suffolk breeder and have provided ram ewes for these public relations gestute. Your ram has been nguished on the 15th of October and it was the 5th of November before you replaced him. You have been turning the rams into the ewes in a fenced pasture. One EFA boy, who owns a registered Suffolk ewe, brought his ram to be bred in mid-September. His ewe dropped ewe on one ewe lamb, on April 9. He is applying for a registration. As applicant, do you agree the registration?

This question requires the same sort of thinking but, in this case, the student will be better prepared. In this case, however, the boy is required to use the 15th day gestation period time to complete the signs of pregnancy and to explore the concept of whether the student could bring to mind the whole registration procedure by stating, "What should I do if..."

In other words, we have required an application of knowledge rather than just the question of what should be done if... At the same time you could bring to mind the whole registration procedure by stating, "What should I do if..."

Questions of this type are more difficult for students. Therefore, the answers will be better.

The second questions could be similarly handled. This might be a good question:

Suppose you have purchased a beef cattle operation in Western Nevada and you hired farms. It has been a severe winter. One cold spring morning in the middle of calving you are approached by a field representative from your local feed store. He feels you should purchase some salt, thiamine, and vitamins. He says that the cows need salt, thiamine, and milk production. He re- minds you milk is quite good in the cows. What do you do? The question you must answer in your decision. Which of these nutrients are you going to buy and why?

Really the same information is required to answer this question as question two. However, you could not make your decision on the job. An unnecessary expenditure means less net return and this could motivate to the profit-minded student when you proceed to farm management.

You might be asking problems of emphasis. Student's ability for examinations can be answered very briefly. For example, in the case of the preceeding questions the student could be put in a group and asked to solve the problem. Consider question one. It might be asked this way:

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Describe a program that you might implement in your dairy herd to control abortion in the fifth to eighth months.

This question requires the recognition of Bangs disease as the probable cause but then allows much freedom for individual thinking. The second question is more difficult to score. Since we are teaching the whole student they should be able to use English construction and spelling in addition to subject matter content. This type is for those who are college-bound, both in skill with and attitude toward language usage.

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Labor Market Failing to Meet Job Needs

City employment needs continue climbing but farm youths usually lack necessary training in fight for jobs. The labor pool among youths is increasing on the processing, farm and other rural ventures but training unemployment stands at 15 per cent.

The American labor market has too many square pegs failing to fit into round holes. The week last year, almost 3.9 million people were looking for jobs—and not finding them. Nearly 64 per cent of those out of work had to settle for part-time work.

At the same time, the demand for agricultural and home service and hospital and other community services, for example, goes up. The present shortage of trained workers and efficient firms to provide services is in short supply.

The situation is clear that the people and the jobs don't match. But the solution isn't so clear, particularly in the rural areas.

Unemployment among farm workers is more prevalent than it is among other workers in the non-farm labor force. In 1959 about one farm worker out of four reported being without a job for 17 weeks of the year.

Underemployment also plagues rural areas more than it does the city. The intermittent, seasonal farm worker earns much less than the national average for comparable manual work.

There are several federal, state and local programs trying to cope with the problem of the untrained worker and the unfulfilled job. The task is enormous in rural areas because educational levels are generally low. Jobs must be sought in the cities, and few of the job seekers have the training for off-farm work.

Nor can the rural worker expect any automatic solution to the job problem, despite the expected increase in one-fourth in 1970's manpower requirements. The averages just don't apply to agriculture. On the contrary, agricultural employment should continue to decline during the period.

Though the agricultural worker in general is having his difficulties, even worse odds are being faced by teenagers, including those of rural areas. The national rate of unemployment, for example, dropped nearly 1 per cent to 4.3 per cent by the first quarter of 1965 during a period of little more than a year. But the unemployment rate for teenagers early this year stood at 15 per cent.

The situation is aggravated by the now familiar problem of the dropout, the youth who generally starts out poor, never gets education, remains forever untrained and must face ever stiffer competition.

The boy who never gets through high school faces twice the risk of unemployment as the graduate. Today there are about 7 million people between the ages of 16 and 21 who are out of school. These million of them never made it through high school. There is another million in this age group with an education limited to the elementary grades or even less.

The large postwar baby boom is now coming into the critical employment stage—the late teens and early twenties. They now chart the course of their lives with present educational and employment decisions.

Only minor increases are expected in the over-25 brackets during the present decade. But nearly 50 per cent increases are expected in the 14-24 age group between 1960 and 1970.

High School Diploma Gains Value As White Collar Jobs Continue Increase

Riding the wave of the future or ending up on the economic rock?

For today's youth, the different courses are written on the high school curriculum.

More and more, jobs for the manual worker are drying up. The status of factory workers, for example, decreased by a million in just one year, from 1960 to 1961. On the other hand, the number of white collar workers increased by 1.5 million.

In 1959 white collar workers (Continued on next page)
Guest Editorial
Douglas C. Towne

(Continued from page 213)

100 projects in agriculture, most of which are conducted in the classroom and involve the use of real-world data and situations. This approach allows students to develop critical thinking skills and apply classroom concepts to real-world situations. The goal is to prepare students for success in the workforce and to promote lifelong learning.

The results obtained through these projects are impressive. Students have shown significant increases in understanding of agriculture-related topics and improved critical thinking skills. Moreover, many of these projects have been adopted by educational organizations and used in various settings, further emphasizing the importance of hands-on learning in agriculture education.

In conclusion, the success of the University of Wisconsin-Madison’s agriculture education program is a testament to the power of experiential learning. By providing students with real-world opportunities, the program prepares them for success in the workforce and promotes lifelong learning.

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(Continued from page 213)

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Stories in Pictures

Gilbert S. Guiler
Ohio State University
Columbus

Science and mathematics go into training today's Agriculture Technician. Basic to many technical fields is the accurate use of scientific instruments. Mediate Junior College includes all of these in its technical training program.

In-service work for teachers on preparing dairy product samples for graving is provided by Dairy Science Department of South Dakota State University.

Proper student selection of high school program of studies keeps doors open to advanced education in agriculture. (Wells Village, Connecticut)

Tree planting is a profitable business for Minnesota Future Farmers.

Teaching the Production Agriculture Major is a unit on "Selection of Farm Machinery" is included in the Arizona Western College Curriculum.