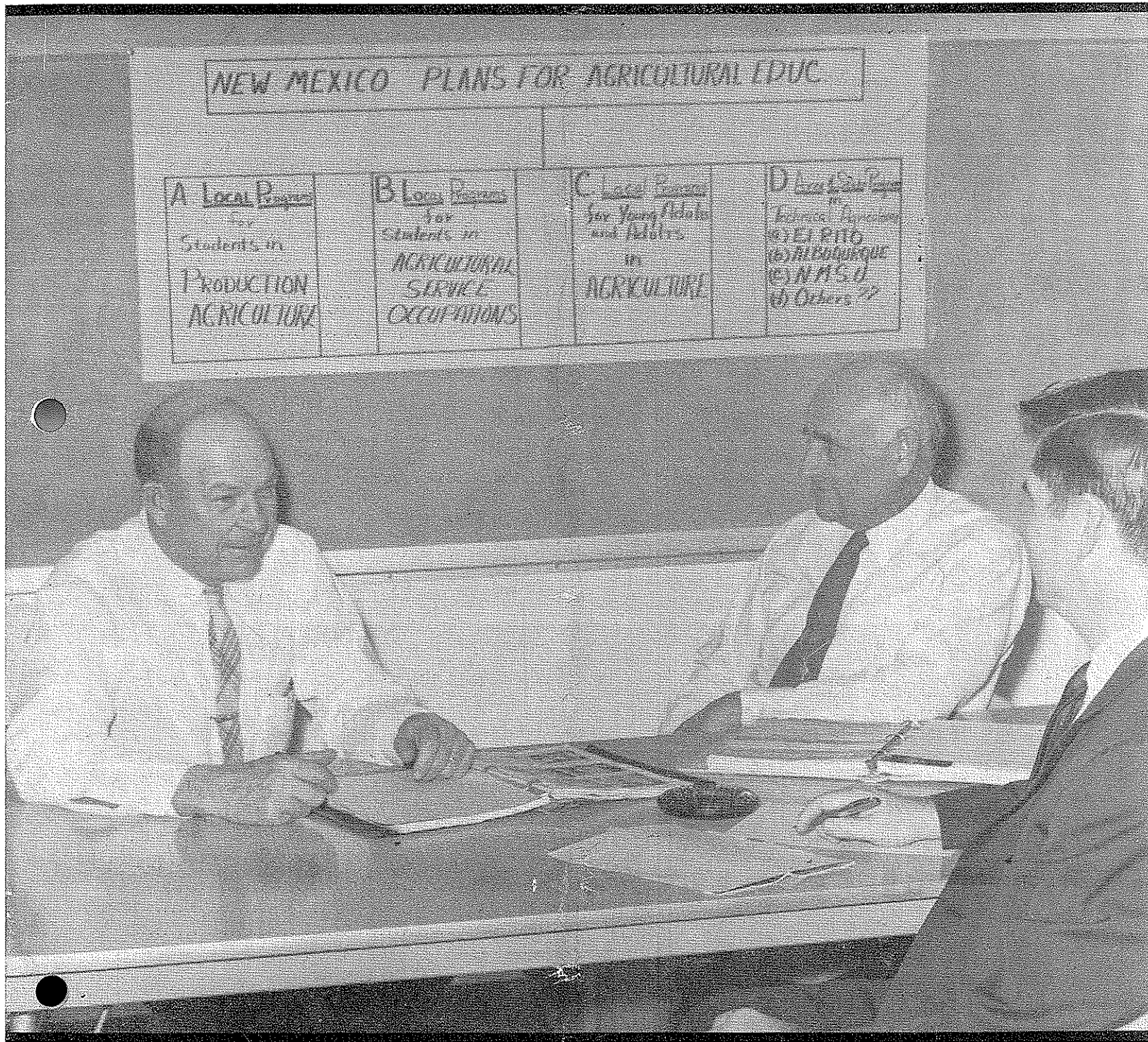


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The Cover

Planning state programs of agricultural education begins with state staff members in supervision and teacher education assuming their responsibility of leadership and then securing the aid and cooperation of all of those who can contribute. This is how it starts in New Mexico. From left to right—L. C. Dalton, State Supervisor of Agricultural Education, C. T. Grable, Assistant Supervisor and J. D. McComas, Head, Department of Agricultural and Extension Education at New Mexico State University. Photo by NMSU Agricultural Information Service.

Editorials

A Master Plan Can Aid Supervision

Guest Editorial . . . MARVIN G. LINSON, State Supervisor, Denver, Colorado



Marvin Linson

Vocational education in agriculture faces a tremendous challenge if it is to continue to serve the *occupational* and *educational* needs of a rapidly and dramatically changing agriculture.

Vocational education in agriculture *can* and *should* be providing the leadership for determining needed changes made necessary by technological advancements and improved methods in producing food and fibre essential for an expanding population. The influence of state supervisors of vocational education in agriculture *can* and *should* be a vital force in guiding these changes.

Perhaps the greatest challenge and responsibility facing state supervisors is that of providing leadership for state program direction.

A critic once said that some supervisors reminded him of the farmer who was so busy chasing pigs he didn't have time to fix the fence. Although this analogy seems to be a bit unjust it is true that as humans we are often tempted to take care of immediate pressing problems and neglect the less obvious preventative activities of our jobs.

If supervision is to meet today's challenges and responsibilities, it appears logical that a first essential step in the leadership role of supervision is a master plan for supervisory activities. If supervisors are not well organized for economical and purposeful use of their own time and effort, they cannot hope to provide direction for the many persons in vocational agriculture who have learned over the years to respect the value of annual and long-range planning.

Preliminary to the development of a master plan is program evaluation. Evaluation is said to be the quality control in education. Only as we see clearly our weaknesses and strengths are we able to project plans for

future improvement. Only when a supervisor re-thinks his total function in relation to the objectives of vocational education in agriculture can he hope to solve those problems with which he is confronted.

It is also generally recognized that evaluation stimulates change. The major focus of supervision should be aimed at achieving program modification—not just for the sake of change—but for the sake of meeting the needs of rapidly changing conditions in an efficient, systematic manner.

It behooves supervisors to be creators of change not followers. They need to be asking themselves questions like these: What are we doing to appraise the needs of vocational agriculture? What are we doing to provide leadership in educational planning? What are we doing to promote, conduct and utilize research? What are we doing to contribute to the improvement of instruction? What are we doing today that we should have stopped doing yesterday or ten years ago?

An honest answer to each of these and many other similar questions is good self-evaluation. What we do about it after we have answered the question is program planning.

Although the primary responsibility for the program direction falls on the state supervisory staff, it would seem unwise for supervision to assume the responsibility without involving those who are affected by the administrative decisions of the supervisory staff. Teachers, local school administrators, teacher educators, and lay citizens are willing and capable of providing valuable assistance in designing state program direction. The supervisor who involves representatives of these groups in planned, coordinated effort may well be providing the kind of program direction needed to keep agriculture out in front of our changing society. □

Our teachers of vocational agriculture need help from the state staff, from local school administrators, and from local citizen committees. The state staff can conduct studies and design course patterns as guides for local administrators and teachers. They also can work with local school administration and school boards in maintaining a favorable "climate" for the implementation of a program. Local school administrators are key people in providing a favorable "climate" in which a program can function. They must be involved in the planning to the extent they understand its objectives and how it operates. Citizen committees are highly advantageous in planning and evaluating programs, and may be used effectively in placing graduates.

The 12 "Tasks" assigned the teacher appear to be educationally sound. I would question, however, the advisability of a teacher undertaking all these tasks without involving a lot of helpers.

A. G. BULLARD,
State Supervisor
Vocational Agriculture
Raleigh, North Carolina

LETTERS

Sir:

I have a book, "Contributions of Leading Americans to Agriculture," edited by A. K. Getman and R. W. Gregory and taken from articles that had appeared in "Agricultural Education Magazine."

The book doesn't have an article on either Washington, Jefferson, or Clay. Could Agricultural Education Magazine publish more articles on men like these in the future?

I need information on George Washington as a farmer for a program during National FFA Week. So far I have not found much material.

LEON W. WHITLOW
Teacher of Vocational
Agriculture
Scottsville, Kentucky

Sir:

In J. D. McComas' article, "Teacher Tasks in Agricultural Occupations," he seems to place most of the responsibility for structuring the program, for providing the instruction, for finding work experience stations, and job placement *upon the teacher*. We do have versatile and dedicated teachers of agriculture in our schools, and they are *key* people in the educational process. Yet, I would contend that there are other educators and "laymen" who should share some of the 12 "Tasks" which McComas seems to assign exclusively to the *teacher*. Involvement of people is a fundamental principle, we should not overlook in the planning of local educational programs for agricultural occupations.

Sir:

The recent article in the *Magazine* entitled *Publishing Truth For Today's Times* demands more than passing attention. The editor has pointed up some very timely guides for both those who write for publication and those charged with responsibility for selecting that which merits printing.

You who identify with the recognized leaders in agricultural education of past eras will recall that each thought, wrote, and spoke with a view to a future built out of the proven good of the past and a critical examination and evaluation of the present. The pace at which change is taking place today accentuates the responsibility for our doing likewise. There is neither time nor justification for adhering to the *myth*.

Any reference in these times to writing for publication should include an additional approach to caution. I refer to the all too prevalent pressure to "publish or perish" imposed on those who would seek professional recognition and advancement. Testimony of publishers, editors, and leading critics of education who write for such reputable publications as the *Wall Street Journal*, to name only one in which criticism recently was voiced, agree that this pressure is resulting in a growing abundance of manuscripts but with a serious deterioration in quality. This pressure is all the more reason for serious attention to the guides proposed, if professional integrity is to be maintained.

Sincerely,

W. A. Smith, Cornell University

These remarks are especially significant since they come from a former editor of the "Magazine."—Editor

Sir:

We have had a few lively staff discussions regarding the training of generalists versus specialists. Apparently there is justification in the Connecticut situation for Howard Martin's point of view. Production Agriculture in Missouri is quite diversified and we think trainees in agricultural education should receive a minimum of instruction in plant and animal science, economics, and agricultural mechanics. To date we have but few multi-teacher departments with instructors confronted with the monumental task of being everything for everybody. To this end we hope specialization of training for specific assignments might occur following receipt of the baccalaureate degree. At the same time we recognize that specialized training would be ideal if proper geographical placements might follow and that some mobility of experienced teachers might not need to be taken into account.

G. F. EKSTROM
University of Missouri

Sir:

Certainly concern in the area of why students don't enroll in agricultural colleges is timely and reasons for this are vital to developing adequate counselling procedures. The assumption is made by Richard and Bass that large numbers of jobs in agriculture are available and unfilled. While this is probably true to a degree, it is also true that as agriculture has become more efficient it has required fewer workers. In most other industries increased efficiency, fewer workers required, greater



output resulting is lauded as a great advance. In agriculture this does not seem to be the case, especially in regard to number of workers required, so it is possible the situation is overemphasized. However, few persons will question the fact that opportunity does exist and every effort must be made to get the best possible personnel into agricultural positions.

This study points out several important danger zones where information for those directing rural high school seniors is lacking. Namely, that parents, teachers, guidance counsellors, and others who should know better are directing students away from agricultural opportunities. In this connection it might be interesting to examine how persons in related agricultural occupations view the role of their position. Perhaps the person in a fertilizer plant thinks of himself as a chemist, or the person in a seed plant thinks of himself as a businessman, or the person working for an irrigation district thinks of himself as an engineer. If this be so, then parents, counsellors, and other persons counselling rural students also view these positions as outside of agriculture, and as this article so clearly shows, these persons in key counselling positions are responsible for directing students with desirable rural backgrounds away from a career in agriculture.

E. M. JUERGENSEN
Department of
Agricultural Education
University of California,
Davis

Sir:

The article by Sotero L. Lasap, Jr. entitled "Need of Farm Background for Teachers" was interesting to this reader.

Many teacher educators have been reluctant to encourage students to enroll if the students were lacking in actual farm experience. Freshmen college of agriculture courses usually operate on the premise that all students do have a general farming knowledge and this condition discourages some urban raised youth from selecting agriculture as a curriculum.

A strong farm background is not as important as it once was for the vocational agriculture teacher. In areas of specialized agriculture a thorough knowledge of the field would be more valuable than a superficial experience in sub-standard farming.

Many of us would prefer to train a future teacher with no high school experience in the program rather than one who had experienced four years of vocational agriculture under a poor teacher. This could also be true in regard to farm experience. At least a student with no farm background does not have knowledge that must be relearned.

DWIGHT L. KINDSCHY
Teacher Education
University of Idaho
Moscow, Idaho

Sir:

I noted with interest James Hensel's article on the specialized curriculum at Janesville, Wisconsin. This type of curriculum is one I would expect to be successful in or near an urban center.

It was interesting to see the percentage of urban students electing to study the 16 courses offered. It appears to me that the school counsellors would need to have considerable understanding to be able to counsel students for such a series of courses.

This wide selection of courses reminds me of my own choice of electives at Iowa State. I had to depend on counsellors to pick the courses that would best train me to be a vocational agricultural instructor. There would need to be a schedule showing how a series would lead to different qualifications.

Another question that occurred to me is "How could you teach farm management in depth in one semester?"

If I had a second teacher I would like to offer a wider selection of courses for a few urban students. However, I feel I am offering "a whole side of beef" that helps our Audubon farm boys learn to farm profitably. I wouldn't be meeting the needs of more Audubon youth but less if I offered this pilot type of program in my rural school area.

This type of research is good for Vo-Ag and I would expect to see more of this type of offerings under the Vocational Education Act of 1963 in or near urban areas.

Sincerely,
James Hamilton,
Audubon, Iowa

Sir:

George Fraser should stand up and take a bow for his Four Phase Curriculum for Farm Related Occupations. Everyone may not agree that he has come up with the best answer on how to prepare students for work in off-farm occupations but at least he has one answer.

We are pretty well agreed that we have a job to do to prepare workers for NFAO. It hasn't been too clear, though, just how we should go about it to get the job accomplished. Fraser and other teachers, who are breaking away from the traditional curricular patterns when the evidence indicates that is the thing to do, are to be commended for blazing some trails.

RAYMOND GARNER
Teacher Education
Michigan State University



Robert E. Taylor

The Professional Teacher And The State Program

ROBERT E. TAYLOR, Director, National Center for Advanced Study and Research
in Agricultural Education

Vocational education has been thrust into a new era, a period which will demand the best *thinking* and efforts of us all. The technological explosion in agriculture, increased educational innovations, and population mobility are but a few of the reasons for increased emphasis on comprehensive planning and organization of programs on a scale not yet realized. Changes in the occupational structure of agriculture and supporting services, increased specialization, and the accompanying requirement of quality vocational education in depth, plus the insistence by a more enlightened public for efficiency and effectiveness in education, are further recommendations for more extensive, long-range, master planning in agricultural education. It is clear that such planning cannot and should not be done in isolation but must involve representatives of groups with differing responsibilities in the program, of other vocational services and general education, and of the agricultural industry being served.

Through democratic administrative procedures, individual teachers will have many opportunities to contribute to the development and execution of the state program for agricultural education. Some of these are by: (1) Conscientiously reflecting changing needs for agricultural education, (2) sharing innovations and promising ideas with state staff members and others, (3) serving on planning and evaluation committees, and (4) especially by being a *professional teacher*.

Planned state programs are needed but the success of any educational program ultimately resides in the *professional* performance of each individual teacher. The expanding cumulative effects of individual professional teachers, working in concert with their fellow teachers in vocational and general education and in cooperation with parents, employers, and state staff members and others, will determine the real contributions

and values of the planned state program.

The future will require professionalism of the highest order on the part of teachers and staff. Perhaps you are asking, "What do you mean by 'professional'? What can I as an individual teacher do to adequately exert needed leadership?" You can do much! It seems to me that if the professional teacher does the following he will maximize his contributions to the state program and to his immediate clientele.

The *professional* teacher:

1. Is alert to trends and needed adjustments in his field. He maintains a positive attitude toward change.
2. Is interested in continuously improving his professional competence. He recognizes the need for constant training and retraining. He reads broadly, talks with leaders in various fields, and is informed.
3. Takes advantage of graduate education and the opportunity to work for an advanced degree. He participates in other in-service activities. He reads his professional magazines and supports his professional organizations.
4. Develops and maintains effective relationships. He becomes an effective part of the school and community.
5. Develops an understanding of the purposes and procedures of other vocational services.
6. Performs with a high degree of competence. He effectively plans and conducts a comprehensive program.
7. Is concerned with *standards* and *quality*, not only in his own department but also in the total program in the state and nation.
8. Focuses on serving others. He is not concerned with self-aggrandizement, perpetuation, or empire building but rather with improving the lives and circumstances of his students.
9. Recognizes his *professional obligations* to identify and recruit capable young men for the agricultural education profession.
10. Maintains a positive attitude toward his job and his program. He believes in the future of agriculture and in what he is doing. He tells others about it.

In this age of science and technology we recognize the need for knowledge but we should remember that knowledge is not all. The good teacher *knows* but he must also *be*—for attitudes are frequently caught, not taught. Remember, we teach more than agriculture.

Planned state programs are needed but their success or failure hinges on the professional performance of individual teachers. Therefore, state programs should give major consideration to encouraging and assisting teachers in attaining professionalism. □

John Deere Foundation Fellowship

The National Center for Advanced Study in Research in Agricultural Education, is in the process of selecting the recipients of a new graduate fellowship. This fellowship for a full year's graduate study is sponsored by the John Deere Foundation and will begin with either the Summer or Fall Quarter of 1965. This fellowship is offered to an individual on a state supervisory or teacher education staff who is interested in pursuing full time graduate work. Nominations have been made by head state supervisors, head teacher educators, state directors and chief school officers. □

STUDENT SUBSCRIBERS

Business Manager, T. L. Faulkner, says that more teacher trainers than ever have taken advantage of student subscriptions to The Agricultural Education Magazine this year. The low rate of only \$1. per year is possible because the teacher trainer at each institution collects for all subscriptions and distributes the copies to members of his classes.



A. H. Krebs

Guiding Principles for Evaluation Under The Vocational Education Act of 1963

ALFRED H. KREBS, Teacher Education, University of Illinois

We now know that our programs of vocational education in agriculture will be evaluated by national "advisory councils" at not to exceed five-year intervals. Now is the time to develop and implement a sound philosophy regarding evaluation. We need a philosophy which can guide our efforts to meet the challenge presented by the mandatory national advisory council evaluations. If all we ever do is provide data about our programs for the national advisory councils, we will have failed to meet our full responsibilities regarding evaluation. Data may be interpreted in many ways, depending on the interpreter's background and bias. We must plan for our own continuing evaluations so we will know, long before national advisory councils begin work, what the results of our efforts have been and the kinds of program adjustments needed.

References to Evaluation in the Act

There are at least a dozen references to evaluation in the Act which we should take into account in formulating any philosophy on evaluation. These references to evaluation are as follows:

1. There will be an evaluation at least every five years.
2. Both programs and services will be evaluated.
3. State programs will be evaluated.
4. Local programs will be evaluated.
5. Current manpower needs will be considered.
6. Projected manpower needs will be considered.
7. Current job opportunities will be considered.
8. Projected job opportunities will be considered.
9. The relative vocational education needs of all groups will be considered.
10. Any reports the Commissioner of Education may reasonably expect must be provided.
11. State plans must include provisions for evaluation.

12. Although a national advisory council will conduct the periodic evaluations, the national advisory committee, of necessity, also will be concerned with evaluation.

Some Guiding Statements

If we are successfully to meet the challenge of these periodic evaluations, each of the references to evaluation in the Act must be examined for possible implications for our programs of vocational education in agriculture. The implications must then be verbalized so that we can use them as guides in planning and conducting our own continuing evaluations. These guides may be used as the starting point in the development of our philosophy of evaluation. The following statements are offered for consideration:

Effective and adequate evaluation of vocational education in agriculture will be largely dependent upon data to be gathered by teachers of vocational agriculture.

It is only logical to recognize that the efforts of all persons engaged in vocational education in agriculture

are directed toward the achievement of satisfactory programs in the many schools and school communities throughout the country. It is only logical, then, also to recognize that the major burden for obtaining the data for use in evaluation will be placed on the teachers in the schools and school communities in which vocational education in agriculture is conducted. Data collected on a state and national basis have not, to date, reflected the true situation regarding agricultural occupations.

Evaluations of vocational education in agriculture will be presented in a form which will develop a public awareness of the basic strengths of the program.

Over the years, our major efforts in public information programs have centered on the FFA. This will no longer suffice. The public must be helped to identify the words *vocational education in agriculture* with the basic strengths of the program: occupational flexibility, personal development, preparation for continuing education, and preparation for employment.

Evaluation of programs of voca-



Roy Guffey, one of the Division Managers of St. Elmo Grain and Produce, Inc., St. Elmo, Illinois, is observing Richard Hopper, a senior, pour wheat into a moisture tester. In the rear is R. M. Lowe, vocational agriculture teacher, watching this new development in his vocational agriculture program.

tional education in agriculture will emphasize both programs and services for all age levels and for persons of all levels of ability.

The emphasis in the Act on programs for the handicapped, for high school youth, for older youth, and for adults indicates that programs are expected to serve "all persons who desire vocational education and who can profit from it."

Each part of the program of vocational education in agriculture will have built into it procedures for continuing evaluation.

We know we are going to be asked for information at regular intervals. We cannot be forever going back to "dig up" the information requested. This is wasteful of time and subjects evaluation to greater possibilities for error than are necessary.

Evaluation will be comprehensive in that it will include evaluation of all phases of the program at all levels: administration, teacher education, program development and program conduct at local, state, and national levels.

The Act provides that "state plans" will include policies and procedures for periodic evaluations of state and local programs. The relationships among the local, state, and federal agencies dictate that the influence of the actions of each on program development and conduct be considered in any comprehensive evaluation. Many persons are completely unaware of the continuing evaluation of teacher-training programs and of evaluation of administration at the state and national levels. The reference in the Act to "programs and services" also implies that nothing will be overlooked.

The major emphasis in evaluation will be on studying the success with which students have been placed in jobs or in programs of continuing education. Of only secondary importance will be whether the job or educational program in which the student was placed is in the same field as the preparatory vocational program which the student pursued.

Of primary importance to the nation is the successful placement of individuals in jobs or in programs of continuing education. Those vocational education programs whose students consistently are successfully placed will be considered worthy of the continuing support of the nation.

Evaluation procedures will em-

phasize program development in relation to projected manpower needs and job opportunities.

The continuing successful placement of students in jobs and programs of continuing education will be partially dependent on careful estimates of future manpower needs and job opportunities. In this respect, of critical importance to agricultural education will be a positive identification of jobs with the agricultural knowledge needed in those jobs and an identification of manpower needs with agriculture as an industry.

Evaluation criteria and procedures will extend beyond those implied by legislation or those requested by evaluation groups.

Unless the agricultural education profession takes an active part in the development of criteria and procedures for evaluation, it is quite possible that the vocational agriculture program will be evaluated on the basis of various kinds of "nose counts" only. The profession is aware that many aspects of personal development cannot be merely "counted."

Both the process and the product of programs of vocational education in agriculture will be evaluated.

It is to be expected that the successes or failures of our programs in terms of product will be identified with the processes used to achieve those results.

Evaluation will be in terms of total vocational education programs as well as in terms of specific vocational education areas. Comparisons will be provided for among the various areas of vocational education.

Since programs are to be evaluated "in the light of current and projected manpower needs and job opportunities" with appropriate adjustments in financial support to follow in accordance with the findings, it is inevitable that evaluations will result in comparisons among the various vocational education areas. Failures, as well as successes, will be traced to specific vocational programs. The benchmarks have already been established by the study of the panel of consultants on vocational education.

Every person engaged in vocational education in agriculture or affected by it will be either directly involved or represented in the evaluation process.

It has always been part of our basic philosophy to secure the participation of persons affected by a program in the evaluation of that program. The broad representation on the national advisory committee and on the national advisory council appears to be an extension of this philosophy to the state and national levels.

Information obtained by program evaluations will be disseminated by appropriate means and in suitable forms to the general public.

In the final analysis, it is the public which has the power to approve or disapprove educational programs supported by public funds. The general public should be the first to learn of the results of our continuing evaluations.

Information obtained by program evaluations will be summarized and distributed to the agricultural education profession and to evaluation groups in suitable forms.

Technical reports of evaluations should be distributed to the profession and to evaluating groups for use in adjusting programs to changing social and economic conditions. Directions regarding the form of reporting desired by state and national evaluating groups should soon be available.

Findings from continuing evaluations will be utilized in program development through pre-service and in-service programs of professional preparation and improvement for teachers of agriculture.

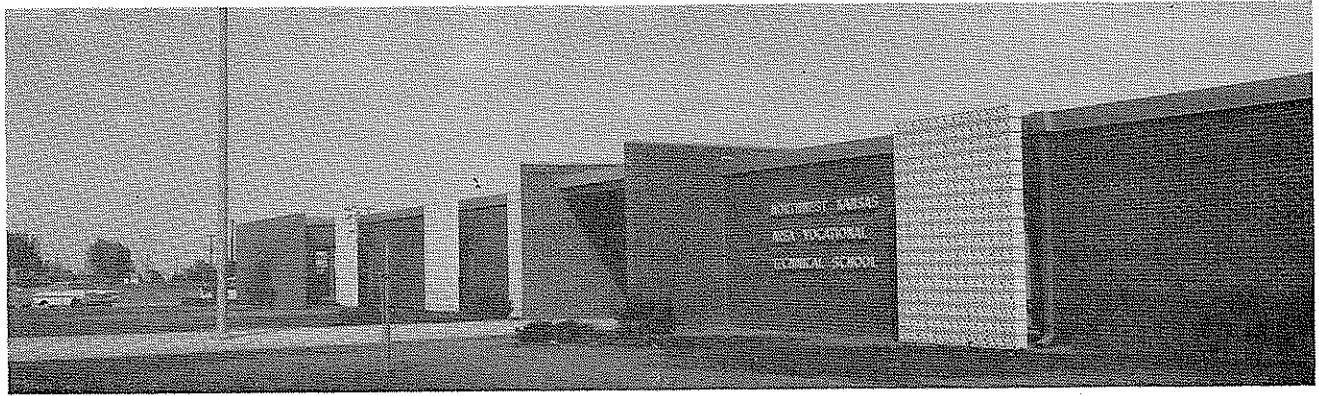
One of the real values of continuing evaluations should be the rapid adjustment of programs to meet changing needs. If this value is to be realized, the results of evaluations must quickly be injected into the mainstream of programs of teacher education.

Evaluations of vocational education in agriculture will be based on objectives stated or implied in legislation, by evaluation groups, by the profession and by local community groups.

Periodic evaluations by persons outside the profession will force us to become more familiar with those features of our programs the evaluators consider important. We will no longer be able to rely on the acceptance of our own criteria as the only basis for evaluation.

The challenge of continuing evaluation of vocational education in

Continued on page 253



Kansas' first new area vocational school building was finished and ready to receive students in the fall of 1964. Interest in the area vocational school indicates that enrollment will double the second year. This school will serve the youth in a forty mile radius of Goodland, Kansas. Six additional schools have been established and are now in operation in Kansas.

Agriculture in Kansas Area Vocational Schools

HOWARD R. BRADLEY, Teacher Education, Kansas State University, Manhattan



Howard R. Bradley

In the fall of 1964, seven area vocational technical schools were established in Kansas with an enrollment over 2500 in their first year of operation. Additional Kansas school boards have made application to the State Board for Vocational Education for area schools. The State Board for Vocational Education for Kansas plans for a vocational technical school within daily commuting distance for most of the Kansas farm youth.

Courses being offered in the newly established area technical schools are welding, electricity, photography, radio and television, office machine skills, practical nursing and specialized training in vocational agriculture.

The need for area schools in Kansas has been confirmed by a five-year study of 869 Kansas high school students who graduated with four or more units of vocational agriculture in 1959.

One fourth of this group is now farming; one eighth is in farm related occupations; over one fourth is in non-farm related occupations; one sixth is still in colleges and univer-

sities; and one eighth is in the armed forces. A more detailed summary of the occupational status of the five-year study can be found in the table at the end of this article.

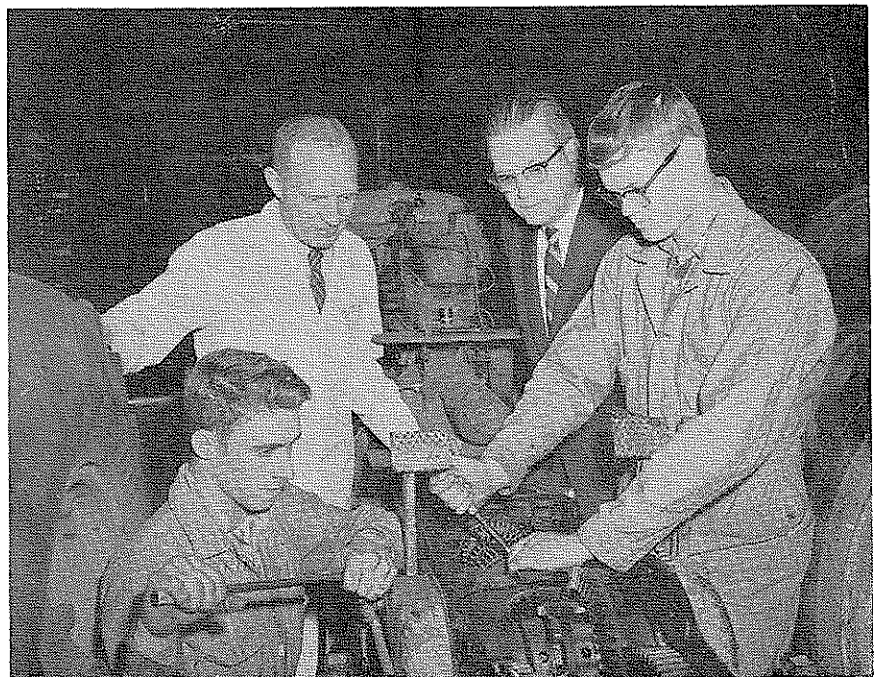
By the end of the first year after graduation, 27.6% of the total group had changed from one occupation to another. There was no definite pattern such as from farm-related to

non-farm-related, no apparent trend, merely a scattering which may have been a lack of decision OR it may well have been a lack of preparation for the job opportunity available.

However, three years after graduation, it was noticeable that the mobility of the 27.6% of the total group was beginning to stabilize. The change to and from the farm had become established at about 25%. Very few changed after that time.

On the basis of this information it seems evident that for those who have not had the opportunity to continue farming or for those who have not chosen to continue, there is still a need for training beyond that which can be justified in a high school vocational agriculture curriculum.

For those graduates who have not



Instructor Gaylord Stanton and Professor Howard Bradley observe students Roy Hiser and Bill Schurr overhaul a tractor in Northwest Kansas' first vocational technical school located at Goodland, Kansas. Each of the farm youth had previously completed high school and plans to find employment as a tractor mechanic in Northwest Kansas after completing the eighteen month training program.

settled with a definite occupation and for the future graduates who will not have an opportunity to remain on the farm, it is now possible to retain the value from their farm background and at the same time prepare for productive employment as technicians and skilled workers in area technical schools. This will mean that many Kansas vocational agriculture students from high school who do not find vocations in farming or college will have an opportunity to acquire a saleable skill through additional schooling in one of Kansas' area schools. It will now be possible for Kansas farm youth to cash in on their farm background.

Occupational Status of Kansas 1959 High School Graduates
Having Four or More Units of Vocational Agriculture
As of January 1, 1960, 1961, 1962, 1963, and 1964

Kansas High School Graduates		Total College Students		Trade and Business School		Farming		Farm Related		Non-Farm Related		Armed Forces		Deceased	
Year	N	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1960	869	290	33.3	34	3.9	271	31.0	60	6.9	117	13.4	96	11.3	1	0.1
1961	869	237	27.7	11	1.2	246	28.3	75	8.6	183	21.0	116	13.2	1	9.1
1962	855	202	23.6	4	0.5	218	26.2	84	10.0	199	23.4	147	17.1	1	0.1
1963	842	171	20.5	3	0.3	221	25.2	103	12.3	215	25.7	129	15.3	2	0.2
1964	837	132	15.8	4	0.5	217	25.9	106	12.6	237	28.3	130	15.5	4	0.5
College Graduates during 1964 and their occupations		45				6		6		27		6			

What's New In Agricultural Education?

J. D. McCOMAS, Head, Department of Agricultural & Extension Education
New Mexico State University



What's new in agricultural education? While there have been minor changes within the last decade, it would have to be conceded that there really is not much which is new. Even a major focus upon agricultural occupations is not totally new as a number of eastern states have given emphasis to this dimension for several years.

Teacher Education Programs reflect very little transition. There is justifiable doubt that appreciable deviation is taking place in methods courses except to encompass minor program modifications. In fact, it is fairly safe to assume the undergraduate and graduate catalog offerings in agricultural education generally mirror the same content as in previous years. Programs of directed or student teaching are still primarily folk-lore oriented with the example of the cooperating teacher having the most lasting impact, and the professor's teachings shamefully diminutive in the long run. Conant's indictment of pre-service education for teachers, with the exception of student teaching, presently leaves teacher educators (even in agricultural education) on the defensive with little empirical evidence to support some dimensions of their role or position.

Supervision, closely analyzed, in an alarming number of instances reveals a preponderance of time and energy expended in the "treatment of ills"—resolving conflicts or difficulties of

teaching personnel, protecting standards, and maintaining liaison with organizations and agencies through meetings and conferences. Here too, procedures and philosophies show a rigidity in some cases more for convenience than for any other reason.

Teaching, when evaluated in terms of student activities and experiences still shows too many untaught experiences being left to chanceful learning. Furthermore, it appears that teaching in agricultural education at the local level reflects an alarming and backward trend toward lecturing and an academic rather than a vocational approach to teaching and learning. The large amount of time still consumed by teachers in coaching livestock teams in the questionable practice of identifying and evaluating impractical ideal types, supervising the selling of fire extinguishers, calendars and rat poison, and encouraging highly organized competition with a resulting chance of demonstrating poor sportsmanship—all seem to point to the reason why there is not much of anything new in agricultural education. Teachers have complained of being overtaxed and yet are more than reluctant to discard obsolete contests and procedures to make way for needed changes.

A real dilemma is ours when we must spend most of our time defending sacred cows and running far too

long on the treadmill we have allowed to develop. We expect students to change behaviors and acquire new skills and demonstrate new practices, when we in turn demonstrate a pitifully small change in our own teaching and program behaviors.

When will there be anything new in agricultural education? The answer to this question is not as easy as is a diagnosis of our present status. *First*, a critical look must be taken to identify obsolete teachings, procedures and programs. We must be more selective in *what* we teach and *how* we teach it. This direction suggests that we *must discard* a number of comfortable and sterile activities. *Secondly*, teacher educators must also demonstrate the kinds of innovativeness they hope their teachers will reflect throughout their professional careers. *Thirdly*, supervisors must direct more time and attention to the development of new programs rather than putting out "brush fires." Leadership rather than a focus on control shall continue to be a primary function of supervision.

In summary, innovations will evolve in agricultural education when more and more responsible people guiding its destiny dare to devote their time and energy in seeking new ideas, ways and answers in keeping up with the technology in agriculture which constantly threatens to make us all obsolete.

Plan Vo Ag Facilities for 1980

CARL O. WESTBROOK, former Texas vo-ag teacher and principal at Canutillo High School, El Paso, Texas. Presently serving with the National Education Association, Washington, D. C. as Head of the Agricultural Education Section, National Planning Mission, Bogota, Colombia, S. A.



Carl O. Westbrook

More vocational agricultural classrooms, shops and school farm laboratory facilities have probably been constructed since World War II than during any other period.

Much of it has been very satisfactory in serving the agricultural education needs of our present day. However, much of it has been a costly duplication of past mistakes. It is highly desirable that new and better replacement facilities can be planned to serve specific purposes and needs of the individual community.

Good Planning Is Essential

It is often difficult to enlarge existing vo-ag facilities because sites are too small, to purchase nearby property—which could have been purchased a few years earlier—is often too costly. Many old buildings are so constructed that it is not practical to improve them. To make additions many times may be too expensive or result in unsatisfactory makeshifts. It must also be kept in mind that educational methods and philosophy is constantly changing and many of these old buildings can not be very easily adapted to new concepts in agricultural education.

These problems may serve as an object lesson. Vocational agriculture facilities must be planned. As a matter of economy and good sense, it is necessary to build for students who will be in classes five, ten, twenty, and even thirty years from today.

The decision to build or improve rests with the administration and the school board. However, in most all instances, the vocational agriculture teacher is consulted or invited to help in the planning. Much study, research, and planning is necessary before really competent decisions can be made.

Population Changes

In planning for future needs many factors must be considered. First of

all we have experienced a tremendous population growth during this past decade. The baby crop passed the four million mark for the first time in 1954 and again in 1955.¹ These children for the most part have finished the fifth and sixth years of their education. In three or four more years many of these pupils will be in our agriculture classes. Will our present facilities handle these students?

Many of our rural area schools have a more or less stable school population. On the other hand, many urban areas have had great increases in population due to the increased birth rates and a fantastic population movement that is going on. The National Education Association pointed out that: During the seven year period 1940 to 1947 over 13 million people moved from one county to another within their respective states and over 12 million crossed state lines. The Bureau of the Census concludes that, "probably never before in the history of the United States has there been internal population movement of such magnitude."²

Future Projections

The individual teacher must be in a position to answer many questions concerning future buildings. For example: What size classrooms will you need in the next decade? Will your department have one or five vo-ag teachers? The trend is toward more and more multi-teacher departments. Do you need a facility to handle 40 boys or 200 boys for an FFA meeting? One school in El Paso, Texas, is now faced with this situation. The agriculture enrollment at Ysleta High School jumped from about 60 students in 1960 to over 200 and three teachers in 1963. At the present time it is necessary for them to hold FFA meetings in the school cafeteria or some other facility.

Meeting Community Needs

Will your future buildings meet

¹ Charles A. Ouattlebaum, *Federal Aid to School Construction*, (Washington, D. C.: U. S. Government Printing Office), 1954, p. 4.

² NEA Research Bulletin, "Schools and the 1950 Census," Vol. XXIX, No. 4 (December, 1951), p. 151.

community objectives and needs? In all probability you will have more urban students enrolled in vocational agriculture due to school consolidation and the shift of population from rural to urban areas. Will this situation call for school-owned farm laboratory facilities? Will your entire curriculum have to be re-evaluated in light of changing needs and concepts? Will school-owned greenhouses, hotbeds, and nursery plots be included in your future plans if they are not now a reality? A much stronger shop program may come about in our new vo-ag concepts. Many schools have begun to swing in these directions.

Where are your vocational agriculture students going after they complete or drop out of your high school? Will they go to college? Will they go back to the farm or ranch? Will they enter the labor market in areas related to agriculture or into jobs that are unrelated? These questions may be important in planning both your curriculum and future building needs.

Shop Facilities

In your shop area, will you need a ten, twelve or twenty foot ceiling? Could there be an occasion to bring a 14 or 16 foot mechanical cotton picker or grain combine into the shop for repairs or instruction? Should the floors be four, six or eight inches thick with concrete? How much floor space will be needed for effective teaching and utility? Will the shop class enrollment be limited to 15 boys or will you have as many as 60 in the shop at one time? Will there be more than one class in your shop the same period? Will there be both boys and girls enrolled in your vo-ag classes in the future? This is the situation now in a few departments in several states. Your shop needs will vary under these conditions. Should your future shop have windows or should you leave them out to help minimize noise, distractions and the possible gain of more economical construction? Should you consider air conditioning your new building? Do you need to install two electric welding outlets or should you have twenty or more for effective instruction? Some experts say that the bare minimum should be four students for each welder. Will there be ample wiring and electrical exhaust fans included in your plans?

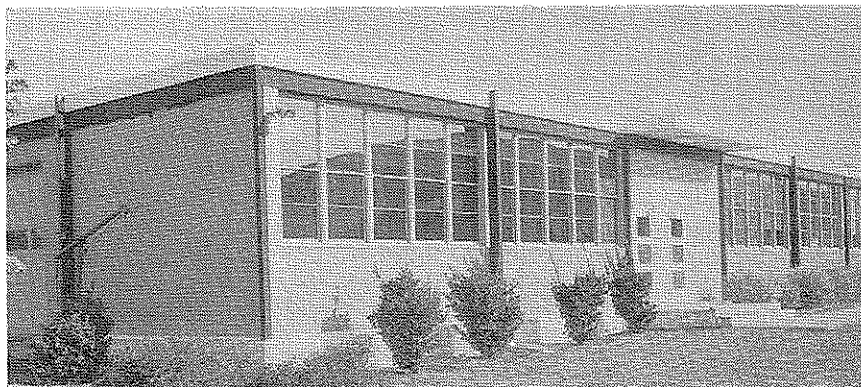
Some Guides for Planning

The educational philosophy, needs and goals of the community should first be determined as correctly as

possible. This may be partly accomplished by meeting with the administration, school board, other teachers, business leaders and farmers in groups and each as individuals. All of them will not have the same ideas. However, a general pattern of philosophy, goals and needs can usually be gathered. When this is done, plan your facilities with the following items in mind:

1. Site Selection.

- a. Is the site well drained?
 - b. Should the facilities be adjacent to or connected to the main high school plant? There will be advantages and disadvantages in either case.
 - c. Are busy streets nearby? This can be both a noise or access factor, as well as being dangerous to student traffic.
 - d. Does the site lend itself to further expansion?
 - e. In ten years is there a possibility there may be a population shift to another area of town thereby causing the high school to be moved?
 - f. Is the cost in line with other desirable sites?
 - g. Can expansion or remodeling on the present site meet the future needs at less cost than new facilities on a new site?
2. Determine the projected enrollment of the elementary grades or feeder schools that send students to your high school for long range planning.
 3. Plan your facilities (classrooms, shops, etc.) so that they may be used for as many different purposes as possible such as lectures, laboratories, luncheons, visual aids, FFA and adult meetings.



The Vo-Ag building at San Marcos High School near Austin, Texas although now 5 years old is one of the better facilities in the state due to careful planning.

4. Will you need more than one classroom or shop for future needs? If the present needs only require one of each but the school district is growing, plan the facility in order that further expansion will be possible.
5. Plan the shop area for larger machinery in the future. Also plan for larger class size and more frequent adult use. The trends point in these directions.
6. Confer with local architects and give them a prepared list of the educational specifications of your proposed building requirements such as:
 - a. Floor space needed.
 - b. Height of ceiling desired.
 - c. Thickness of concrete floor.
 - d. Lighting requirements.
 - e. Electrical wiring needs.
 - f. Equipment to be used in the building.
 - g. Location of exhaust fans and electrical outlets desired.
 - h. Plumbing requirements.
7. Visit new facilities in your area and talk to experienced teachers concerning new ideas and changes they would like to incorporate into future buildings. If possible take your administrators and board members on these visits.
 - i. A list of functions building is to be used for.
 - j. Flow of student traffic patterns desired.
 - k. Heating and/or air conditioning requirements.
 - l. Dark-room requirements for visual-aids.
 - m. (Any other special needs).

These are only a few of the many questions that you may want to consider before building your new vo-ag facilities. When the facilities are completed, you will probably find as the writer has, a few mistakes that you will avoid the next time. However, with careful planning many costly and unfunctional mistakes can be avoided. One point to remember is this: try not to fit the building to your own particular specialty. The next teacher may have his own pet specialty. □

Part-Time Farming--A Way of Life

JACOB S. ZIGLER, Teacher of Vocational Agriculture
Greenmount, Maryland



J. S. Zigler

Although farm economists and magazine editors may disagree, it is the opinion of this writer that the part-time farmer is a vital and necessary part of our agricultural economy.

Look about you in any of the communities bordering on the heavily populated urban and industrial areas and observe the number of

farms which are producing food and fiber, while at the same time, one or more of the adult members of the family living on that farm earns wages at either full or part-time employment off the farm. These areas are especially well adapted to this type of dual employment. With the present trend of light industry to move into rural areas, opportunities for employment within commuting distance of the home farm are increasing. This enhances the idea of part-time farming.

Contributing factors are so obvious that we often overlook them.

Living, as many of us do, in rapidly developing communities along the Atlantic Seaboard, we find many of the family size farms of a generation ago being turned into housing developments or combined into large commercial farms. However, in the less accessible parts of this area are many farms which once supported a family, but because of mechanization and other factors are no longer able to do so. Here the farmer or his wife is forced to seek employment to supplement the farm income or sell out. An alternative to this would be to rent to a neighboring farmer who wishes to enlarge his own business. This permits the farm owner to hold on to his land and home, which in many cases has been in the family

for five or six generations. Here is family pride tending to hold the family on the land, while practical economics tends to drive them off.

The Week-end Farmer

Another group which swells the ranks of part-time farmers is that group of former urbanites who respond to the lure of country living and purchase a small farm within driving distance of their city jobs. These people usually seek a better

place to rear their families, or were farm reared and have enough money to purchase some land, thereby fulfilling what may be a lifelong ambition.

It is argued by some that these part-time farmers flood the markets with products from which they do not have to have a profit in order to live, thereby keeping farm prices down. This is undoubtedly true. However, a more realistic look will

reveal that these same farms, if not farmed by a part-time farmer, would be in production of farm produce by a commercial farmer. It is also argued that part-time farmers produce with less efficiency than commercial full-time farmers. If this is true it refutes the former argument that part-time farming depresses farm prices. However, some recent studies have shown that in some cases, at

Continued on page 262



E. L. Donald



J. L. Smith



G. T. Dowdy

Assisting the Part Time Farmer

G. T. DOWDY, Head, Agricultural Administration Division
E. L. DONALD, Assistant Teacher Trainer, Agricultural Education
JAMES L. SMITH, Graduate Assistant, School of Agriculture
(All of Tuskegee Institute, Alabama)

Part-time farming embraces both farming and regular off-farm employment. As a natural corollary, it has had its major growth contiguous to and within commuting distance of centers of population sufficiently large to provide employment of an industrial or professional nature, and so situated that suitable farming land is available within commuting distances of places of employment.

Part-time farms in the U. S. increased from 574,575 in 1954 to 881,883 in 1959. The number of part-time farms in 1959 represented 23.9 percent of the total farm distribution in the United States; in 1954 it represented 16.5 percent. The contribution to the total value of farm products sold did not increase substantially.

In Alabama, part-time farms increased from 29,925 in 1954 to 40,765 in 1959. The percentage of representation as related to the total number of all farms increased from 17 percent in 1954 to 32.2 percent in 1959. Part-time farms in Alabama accounted for the sales of seven percent of the total value of farm products sold in 1959, an increase of one percent over 1954.

Objectives—The objectives of the study were to determine: 1) the extent to which part-time farming is

undertaken as a prelude to the relinquishment of farming entirely or an incentive to full-time farming, 2) the extent to which part-time farming is regarded as a permanent way of life, 3) economic reciprocation between farm and off-farm employment.

Findings

Alternative Roles for Part-time Farming—The role of part-time farming in Macon County's economic development can be reviewed from any of three main opinions: 1) as a transitional step to full-time farming, 2) as a transitional step to full-time nonfarm employment, or 3) as a relatively permanent way of life.

Part-time Farming as a Transition to Full-time Farming—A total of 150 part-time farm operators were asked: "Do you plan to engage in part-time farming only long enough to establish yourself in full-time farming?" The appalling revelation was that 40 percent answered "yes." Out of the 40 percent, 20 percent of the part-time farm operators utilized part-time farming as an aid to obtain additional capital to purchase additional land; 10 percent, as an aid to obtain additional capital to purchase additional machinery and equipment; 7 percent, as an aid to become a full-time farm owner; and 3 percent, as an aid to become a full-time farm operator.

Part-time Farming as a Permanent Way of Life—Thirteen percent of the part-time farm operators related that they were utilizing part-time farming as a permanent way of life. Six reasons were given for this undertaking. The reasons stated and the percentage of distribution were as follows: Five percent stated that part-time farming provided a wholesome environment for rearing children; 4 percent related that it aided them to supplement off-farm income; 2 percent expressed that part-time farming provided a lower living cost; especially in the food budget; 1 percent thought that a part-time farm would afford some protection in time of recessions; 5 percent felt that a part-time farm provided a good place for retirement or when one reaches advanced age; and 5 percent felt that part-time farming provided contact with both rural and urban life.

Part-time Farming as a Transition to Full-time Nonfarm Employment—Part-time farm operators were asked: "Were you a full-time farmer and decided to undertake part-time off-farm employment as a step toward finally leaving the farm entirely?" Seventy or 47 percent answered "yes." It was noted that: Twenty percent of the part-time farm operators expressed that they lacked the modern facilities needed on a progressive farm; 13 percent stated that they had encountered competition from highly mechanized farms; 5 percent expressed that the cost-price-squeeze was unbearable; 4 percent related they lacked sufficient credit in order to purchase machinery; and 3 percent stated that they were unable to obtain a sufficient number of acres of fertile land in order to make farming worthwhile.

Farm Organization—Part-time farming has various goals and objectives, ranging from part-time farming as a permanent way of life to the goal of large commercial farms. Conditions of the area, as well as characteristics peculiar to part-time farming, were

considered in the analysis of the organizational problems of these farmers. Three important situations evolved: 1) Part-time farming involves a combination of farm and off-farm work, the use of labor in some activities competed for the use of it in the other, 2) in cases where suitable adjustments were not made financial losses were said to be incalculable. Part-time farm operators often use off-farm income as a source of operating or investment capital for farming, 3) The conditions of part-time farming make it sufficient and desirable to utilize modern equipment coupled with the fact that small farms must compete with highly mechanized, render it doubly difficult for part-time farmers to relax on improvements.

Tenure Status—It was found that the tenure status of most part-time farm families were well established in their communities. For all operators, 69 percent were full owners, (much higher than average of all farmers), 20 percent part-owners and 10 percent renters. These farm operators had lived at their present residences or in proximity for an average of 12 years. There was no significant relationship between the various tenures and the number of days worked off the farm.

Classification of Off-Farm Occupations—Data support the fact that part-time farmers engage in a variety of occupations, namely: industrial workers, teachers, ministers, transportation workers (truck or bus drivers), store owners and keepers, carpenters, electricians, painters, plumbers and unskilled laborers. Thirty per cent were classified as wage workers and 70 per cent worked for a salary. Eighty-five per cent of the 150 part-time farmers interviewed worked a total of twelve months a year or they had full-time off-farm employment. Most of the regular nonfarm jobs demanded 40 hours per week of the employee's time or 2,000 hours or more per year.

Part-time farmers commuting to their off-farm employment traveled an average distance of 2 miles per day—one way. The average round-trip travel time was 36 minutes for all part-time operators. Macon County, Alabama, provided employment to approximately 86 per cent of all of the part-time farmers interviewed. The average cost per day to commute to nonfarm work was 55 cents.

Income From Nonfarm Employment

—Income from off-farm employment ranged from 15 dollars a week to \$7,200 a year with the annual mean income of \$3,693.

The Use of Borrowed Funds—Ninety percent stated that credit was used to finance production. Farm operators were asked to identify the loan agency from which they borrowed. The loan institutions for identification purposes were: Federal Land Bank, Farmers Home Administration, Production Credit Association, Commercial Banks, Life Insurance Company, Credit Union, individuals and others. Eighty percent related that credit was obtained from individuals; five percent from commercial banks; and five percent borrowed from the Cross Road Federal Credit Union. Ten percent of the farm operators did not borrow money or otherwise use any kind of credit in the operation of their farming business. The most striking fact was that no one had obtained loans from the Federal Land Bank, Production Credit Association and the Farmers Home Administration. All loans were obtained on a short term credit basis ranging from 6 to 12 months.

Framework for Adjustment—Observation from this study implied that the part-time farmers in the Macon County, Alabama area need to increase capital investments to modernize techniques in order to produce higher yields in production. The number of acres utilized for farming purposes should be increased—this would render modernization relatively easier to implement. Efficient farm management cannot be overlooked relative to this situation and improvement that can be made in this area by farmers simply by seeking and following the vocational agriculture planned programs. The lack of the use of credit by part-time farm operators was observed during this study. It was noted that 80 percent obtained credit from individuals (merchants) and only a small number of the part-time operators were aware of the Federal Land Bank, the Production Credit Association and the Farmers Home Administration. Certainly, if credit is needed it seems that most part-time farmers should patronize the latter institutions. Group procurement of production needs and group marketing efforts should be further developed and should become more rewarding should small operators band together for these purposes.

In the future, vocational agriculture teachers may expect to find some families on small farms engaging in part-time farming for each of the three reasons: 1) as a transitional step to full-time farming, 2) as a transitional step to full-time non-farm employment, or 3) as a relatively permanent way of life. The relative importance of each of these roles will probably be quite different.

If past trends continue, it is probable that one will see relatively few families engaging in part-time farming as a transitional step to full-time farming. A somewhat larger percentage of families will probably engage in part-time farming as a relatively permanent way of life, at least until a certain peak is obtained.

Perhaps the largest proportion of families will engage in part-time farming as a transitional step to full-time nonfarm employment. One may expect to see an increasingly larger percentage of rural residential farms. Vocational agricultural personnel may find that this upturn may well be the most important factor to give enlightened impetus to the future development of part-time farming in all other states that may have a substantial amount of part-time farmers. In the future vocational agriculture teachers and other professional agriculture workers should find fertile fields of leadership in a composite teaching approach as they deal with more and more part-time farmers. Part-time farmers should be encouraged to become more amenable to the development of parcels of their land into recreation units. Some of these units may be as follows: fishing ponds for livestock watering, boating, water skiing and swimming; wild-life preserves can provide income where acreage is sufficient in quantity. Senior citizens resort, lodging quarters, horseback riding, hunting guides and others are areas of business interests that vocational agriculture teachers, county agents and other lay leaders can promote and further utilize the full potential of the natural and human resources of the part-time farmer. □

“No pleasure is comparable to the standing upon the vantageground of truth.” Francis Bacon.

“The history of the world is but the biography of great men.” Thomas Carlyle.

Both Sides

Vocational Agriculture Should Begin in the Freshman Year

C. EDWARD HENDERSON, Teacher of Vocational Agriculture, Schuyler, Nebraska



C. E. Henderson

Our obligation as teachers of Vocational Agriculture is to see that students are adequately trained for a vocation in agriculture which includes farming, ranching or related agriculture occupations. To adequately prepare for a vocation in farming or ranching today, it is necessary that an individual be far more skilled than he was a few years ago. The mechanization of agriculture makes it necessary that a person know the working function of all the various types of machinery he will be expected to operate. The large size of farms coupled with the large volume of business and the high overhead expense makes it necessary that students have an adequate working knowledge of farm management and agriculture economics. For most boys that go on into farming, their high school course in vocational agriculture is the only place where they are able to acquire this knowledge.

Another big reason why vocational agriculture should begin in the freshman year is that in most schools this is the first year of high school and as students make the transition from elementary schools to high school, they begin to pattern their program for future years. The young thirteen and fourteen year old boys are somewhat confused as to the establishment of a curriculum and making of friends. Here with a chance to start his vocational training, the boy is given a sense of direction and self-assurance in the type of work he likes and the chance to mold his interests into the interesting and challenging vocation of agriculture.

FFA Aided By Four Year Program

The Future Farmers of America, being an integral part of the whole

vocational agriculture program, then begins to take form. The leadership and self-attainment that can be reached by the individual boy is limited only by his own desire and drive for attainment. This boy as a freshman in high school is at the first real turning point in his life and here in this period lies the verdict of which way he is going in choosing a vocation. If he has already made up his mind that he intends a career in agriculture, either farming, ranching or related occupations, he is missing the chance to begin his training and will be at a distinct disadvantage if he has to wait until his sophomore or junior year to start either a supervised experience program or begin his leadership in the F.F.A.

More Farm Operators Needed

It is appropriate that some of the facts and opportunities in agriculture be called to the reader's attention. First the average age of the farmer today in Nebraska is 52 years, which means that a great number of farms will be at least changing management and probably ownership each year. The fact that we cannot fill the need for farm operators and owners even if all vocational agriculture graduates go into farming, points out the very definite need for a four-year vocational agriculture program. An ever-increasing number of vocational agriculturally trained persons are needed in agricultural-related occupations. This fact gives even more support to a complete four-year high school vocational agriculture program. The chance for students to learn and establish certain shop skills and techniques would be lost if they had to sacrifice their freshman and sophomore years of vocational agriculture. The training of persons to fill the needs for agricultural-related occupations would also be somewhat deficient with less than a four-year vocational agriculture program because of being unable to receive the leadership training and a certain

amount of farm mechanics skills that they could use in many related occupations. The chance for attaining goals such as an American Farmer Degree, Foundation Awards in Farm Mechanics, Soil and Water Management, Crop and Livestock Production would be greatly lessened with less than a four-year program in vocational agriculture. There are needed some great changes in the over all vocational agriculture program to make it more effective and efficient; however, limiting coursework to less than four years and not starting in the freshman year is not one of these needed changes. More emphasis for training in agricultural occupations will definitely come into the picture and is already here in the school at Schuyler. We are now teaching two separate courses in agriculture and mechanical skills to better equip students for an occupation once they finish high school. This type of course work gives the students a working knowledge of motors, arc-welding, tree-trimming, lawn care and many other skills. Working with established firms in their fields give the student a chance to choose a vocation while still in high school. □

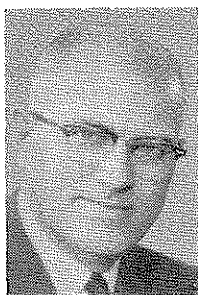
From Former Issues

In February, 1953, under the topic "What's Right with Vocational Agriculture," Louis M. Sasman of Wisconsin said, "In our idea of what constitutes good farming programs for vocational agriculture pupils, we have made constant progress through the years. Thirty years ago, many vocational agricultural pupils simply carried a "project." In fact, we required them to carry a "project." Today our ideal, at least, is that those enrolled in vocational agriculture are receiving instructions designed for those who have entered upon or are preparing to enter upon the occupation of the farm."

of the Issue

Juniors and Seniors Are Ready for Specialized Study-

ROBERT E. LUCAS, Superintendent of Schools, Princeton Schools, Cincinnati, Ohio



R. E. Lucas

It is good news that some of those who are responsible for vocational agriculture education programs have begun to take a long look at the future of the program. Facts that must be faced squarely should include the encroaching urban development, the four million unemployed farmers, and the sobering fact that the annual income of another four million farmers' and agricultural workers' families is less than \$2,500. At the same time, it can be readily seen that while our economic standard of living is the envy of the world our environmental standard is rapidly declining. We are better housed, better fed, and better entertained, but not better prepared to inherit the earth.

Vocational agriculture, in order to justify itself, is making a grave mistake in holding onto its traditional specialized four-year program. In my opinion, traditional vocational agriculture is not meeting the needs in a society that puts a premium on the student who has well-rounded skills and in a nation that needs all its citizens educated to appreciate and conserve its dwindling natural resources.

Freshmen are Too Young to Specialize

Taking a rural boy at age thirteen or fourteen and channeling him into the direction he "likes" because it is the only one he knows, due to his farm environment, and then accompanying this curriculum with an agriculturally oriented outside interest, such as the FFA, is perpetuating the same stereotyped system that turned out the four million farmers who today find themselves vocationally obsolete.

No other vocational program of today seeks to channel a child of

this age into a highly specialized program supplemented with an appropriate vocational club, such as Future Doctors, Future Plumbers, etc.

Merely expanding fields, such as processing, marketing, mechanics, etc., is not the answer either. Whether a young man sells a farm tractor or an automobile or welds a combine or an airplane, the same basic skills are involved.

Vocational agriculture has before it a great opportunity to rechart its course and revamp its goals in line with a changing world with changing needs.

Although the greatest challenge facing education today is to prepare boys and girls for employment at all occupational levels, this does not mean that the aim of our high schools is to produce pre-doctors, pre-lawyers, or pre-nurses or accomplished carpenters, technicians, farmers, or welders. Rather it is to aid in growth of mature, well-rounded, cultural individuals able to sustain themselves in an interdependent society. They do this only if they have acquired basic diversified skills, both intellectual and manual, which will enable them to be flexible and successful in the vocational fields in which they show aptitude.

Today's Vocations Demand Intellectual Abilities

The amount of preparation now needed for employment has increased as our society has become more complex, and the demands upon workers become greater and their tasks become more complicated. Once employed, in any capacity, the individual worker today quickly finds that he faces the problem of keeping up with changing employment conditions. New technologies and materials and new markets and research developments constantly alter the business and industrial scene. Specific skills in demand today may be obsolete next year. Occupations disappear and are replaced by new ones.

In short, technology has created a new relationship between man, his education, and his work in which education is placed squarely between man and his work. Traditionally, this relationship has held for *some* men and *some* work (on the professional level, for example). A relationship exists now for *all* men and *all* work. Vocations today demand intellectual skills. Therefore, educators must be awakened to the fact that what is referred to as general or academic education and vocational education cannot be put into neat little compartments to compete or co-exist. A high school graduate stuffed with fragments of knowledge in the liberal arts or applied arts or about a specific trade is almost useless to himself. This knowledge must be woven into a coherent curriculum in which every part reinforces the whole and all together build insight into the world of work.

An educational institution today cannot justify taking a child at fourteen or fifteen and channeling him into a training course for any narrow occupational or professional specialty.

The first two, and usually three, years of high school should be exploratory, where a student may find and develop his aptitude through experience in a wide variety of courses which will give him basic knowledge in language, mathematics, social science, science, and mechanics, as well as art, music, and physical education. For it must be remembered that a work choice is an expression of an individual's attitude toward himself, as well as the opportunities afforded him.

Start Specializing in the Senior Year

By the time a student reaches his senior year, he should have sufficient maturity, knowledge, and insight into his capabilities, his interests, and aptitudes that he can qualify for a wide variety of occupational choices while he may be ready to specifically con-

centrate on one field. It is only at this level that agriculture as a vocation can be taught. Then it can be expanded to include the thirteenth and fourteenth years. If this is done properly, those who are needed and want to go into agriculture can take up the serious task of learning this vocation. It will also be possible for students who are raised on the farm

to receive a broad and deep education so that if they do not desire to go into farming, they can be guided into other vocational areas where there is a need.

In secondary education we must enhance and broaden rather than restrict and narrow the opportunity of every individual to become whatever he may. □

ment was the mark of Jackson County, but a different situation existed in the rural areas.

An Agricultural County Changes

Jackson County was an agricultural county. Some of the finest farms in West Virginia were located within its boundaries. Very little of its area was not suitable to cultivation or grazing. The land area was 295,000 acres of which 270,012 acres have been classified as farm land. Jackson County grew agriculturally until in 1954 there were 1,751 farms in the county with an average size of 121.7 acres.

With industry moving into the county and many farmers seeking employment in industrial plants, agriculture suffered a decline between 1955 and 1960. What had once been an agricultural county with a few small industries became identified as the home of Kaiser Aluminum. Agriculture was forced to share its place in the economy with a "budding" aluminum industry.

A Community Study Assists in Adjusting To Urbanization

ROBERT V. KERWOOD, Teacher Education, West Virginia University



Robert V. Kerwood

Many communities have felt the impact of industrialization upon agriculture. Departments of Vocational Agriculture have also experienced the resulting changes from a rural to

more than the 1955 figure. The boom was well on its way.

There were many changes in the county for which figures were not available. Some of these were new shopping centers, public buildings, business enterprises, recreational facilities, apartment units and miles of new pavement to new homes. Within the urban areas growth and develop-

an urban-minded population. In 1955 a multi-million dollar aluminum rolling mill was located in Jackson County of West Virginia. The rolling mill was to be the first of the third series of expansions in the aluminum market competition by the Kaiser Aluminum Chemical Corporation.

In 1957 I was employed by the Jackson County Board of Education as a teacher of vocational agriculture at Ravenswood High School, which is located approximately six miles from the new Kaiser Aluminum Plant. It was soon evident to me that changes, both agriculturally and otherwise, which would affect my local program of vocational agriculture.

Social Changes

As shown in Figure 1, the population of Jackson County was declining steadily from 22,987 inhabitants in 1900 to 15,299 in 1950. A small rise was noted between 1930 and 1940, but a decline of over 1,000 people occurred between 1940 and 1950. A rise in population of 3,242 occurred between 1950 and 1960.

Assessed property rose from \$22 million in 1950 to approximately \$45.7 million in 1958 for an index 214.5, again highest in the state. Personal incomes of Jackson County citizens, Figure 2, jumped from \$18 million in 1955 to \$43.7 million in 1957. In 1960 personal incomes returned to \$37.7, still \$19.7 million

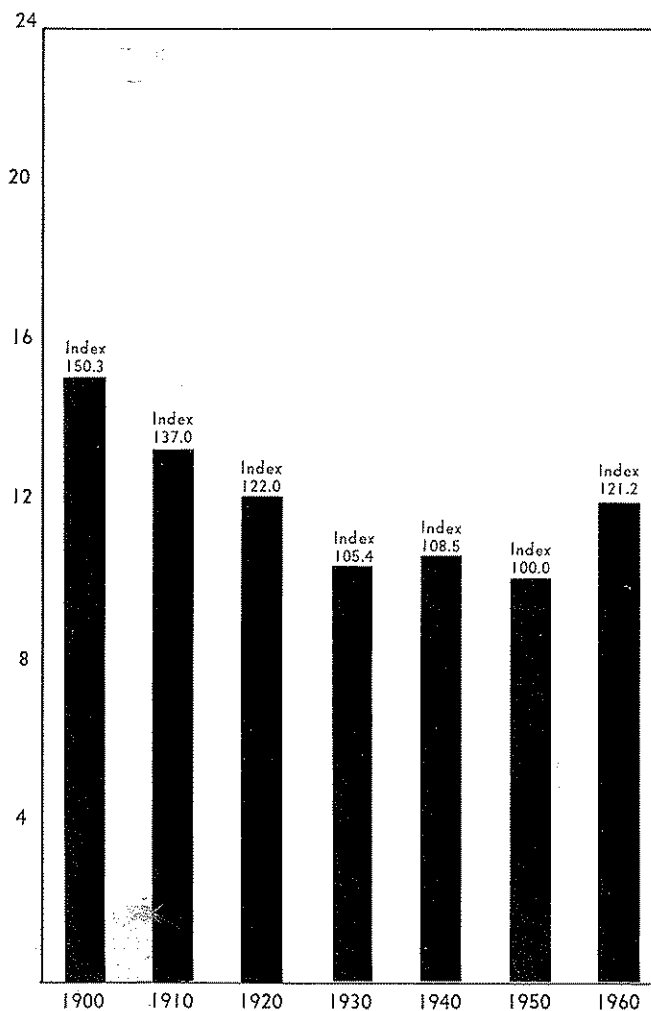


FIGURE 1
POPULATION CHANGES (IN THOUSANDS OF INHABITANTS) IN JACKSON COUNTY FROM 1900-1960. (INDEX 1950 = 100)

Table I
PORTIONS OF THE 1959
PRELIMINARY CENSUS OF
AGRICULTURE
FOR JACKSON COUNTY¹

	1954	1959
Farms	1751	1232
Part-Time (Operator under 65, working off farm 100 or more days, or with income from other sources greater than farm products sold, sales farm products \$50—2499.)		601
Part-Retirement (Operator 65 or older, sales \$50—2499.)		255
Commercial Farms		383
Average Age of Farm Operators	52.9	53.9
Acreage Average Size of Farms	122	145
Cropland (Har- vested) acres	34,719	25,558
Livestock and Poultry		
Cattle and Calves number	21,316	16,470
Milk Cows	7,071	4,017
Poultry	86,469	43,329
Sheep and Lambs	4,020	3,679

¹Bureau of the Census, Preliminary Census of Agriculture 1959 for Jackson County, (Washington: U.S. Department of Commerce, 1960), p. 1.

Vo-Ag Teachers Interviewed

With the coming of industrialization there were views expressed that agriculture was gone, agricultural workers were no longer needed and the money for classes of vocational agriculture should be shifted to other training areas. In 1961 the other teachers of vocational agriculture in the county were interviewed by the writer. Some observations noted were: (1) when industry moves in, vocational agriculture must be ready to adjust, (2) vocational agriculture teachers were teaching several general shop courses for non-vocational agriculture students, (3) programs of vocational agriculture can withstand urbanization pressures if they are good programs giving the students what they want, (4) new emphasis was being placed on agricultural science and farm mechanics and (5) farm related occupations were becoming more important in the boys' training for the future.

The Role of Vocational Agriculture

The fact that 48 percent of Jackson County farmers are part-time and 21 percent are part-retirement farmers is important to determining the needs of an area feeling the effects of urbanization.

This presents a challenge to departments of Vo-Ag. The acceleration of part-time farming in the past decade has placed vocational agriculture departments in the role of serving a split occupational community. New problems such as the distribution of non-farm income, operation of a small diversified farm, record keeping of farm and non-farm income and many others present themselves to the part-time farmer.

It has been said in some circles that teachers of vocational agriculture should not waste their time on farmers who do not depend entirely upon the farm as a means of income. However, it is this writer's opinion that with the present rate of urbanization and the increasing importance of town and country relationships vocational agriculture must stand ready to serve people from both en-

vironments. A small home garden or seeding a lawn presents many questions which teachers of vocational agriculture should be able to answer. In some respects the part-time farmer is a city person who prefers to live on a farm. Teachers of vocational agriculture must include these people in their programs of instruction for a community.

Areas Needing Attention

To determine the areas of agriculture which were requiring the most attention, the writer surveyed a sample of people in the county interested in agriculture. They included farmers, Vo-Ag teachers, extension

Table II
AREAS OF AGRICULTURE
REQUIRING MOST ATTENTION

Areas of Work	Percent of Those Surveyed
Marketing	52
Pasture Improvement	36
Meadow Improvement	28
Part-Time Farming	24
Small Fruit Production	24
Livestock Production	20
Poultry Production	20
Woodland Improvement	20
All Others	under 20

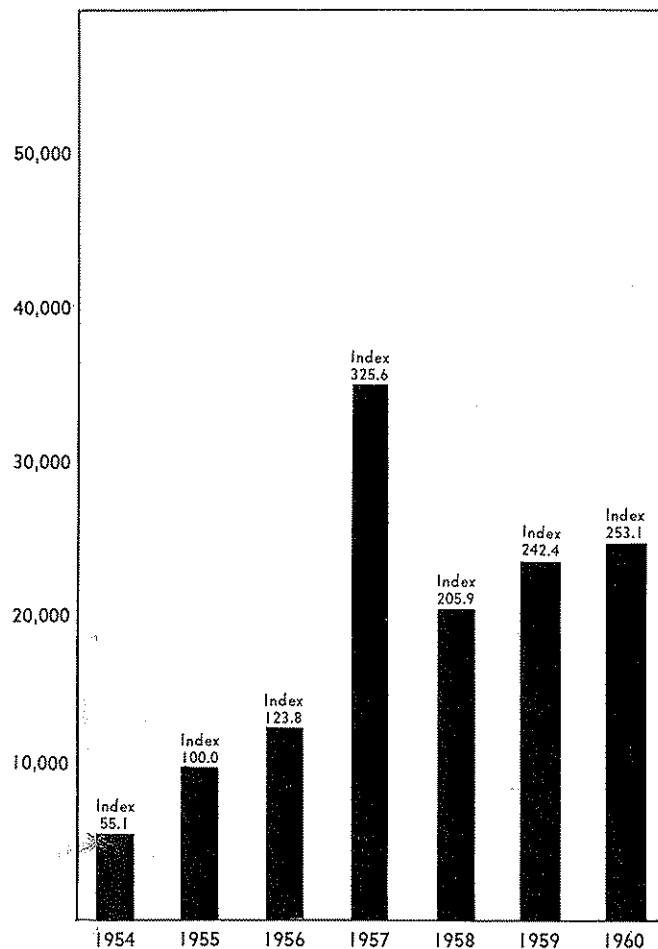


FIGURE 2
PERSONAL INCOMES (IN THOUSANDS OF DOLLARS,
ADJUSTED BY THE WHOLESALE COMMODITY
INDEX) FOR JACKSON COUNTY. (INDEX 1950 = 100)

workers, bankers, high school principals, etc. The results of the survey are presented in Table III.

Further Suggestions

In the above discussion I have noted some problems which presented themselves in a county which is changing to an urban minded public. What should vocational agriculture do when urbanization moves in? As a result of the above study I present the following as suggestions to teachers of vocational agriculture: (1) Survey the community to determine changes affecting agriculture and vocational agriculture. (2) Keep in mind that over 70 percent of the people involved in farming are out of school. A large percentage of the teacher's effort should be aimed at helping out of school people. (3) Work cooperatively with other teachers of vocational agriculture and personnel of agricultural agencies and

organizations in the area. Without their cooperation, there may be a duplication of effort and lack of agreement concerning key issues of an agricultural nature in the area. This will cause farmers to become confused and possibly revert back to conventional methods of farming. (4) Publicize to the fullest extent any activity which involves the vocational agriculture program or the Future Farmers of America. Do not let the people forget for one minute what is being accomplished with their money. (5) Keep abreast of the latest trends in vocational agriculture. If they apply to the local situation, do not hesitate to use them. In a changing community, people become so accustomed to change that they expect it in all lines of work. (6) Spend as much time as possible in the field supervising the boys and working with the farmers enrolled in

Vo-Ag Classes. Make the visits short and frequent as necessary. (7) Be flexible in conducting the program of vocational agriculture and in your attitude toward those who criticize. Keep on the offensive with a good over-all program adapted to the community and its citizens. □

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New High School Vo-Ag Courses Developed

W. T. ELLIS, Supervision, A & T College, Greensboro, N. C.

The primary concern of the high school phase of vocational education in agriculture is the Student—providing him with the greatest opportunities possible for developing his interest, knowledge, understandings, and abilities in the expanding field of agriculture—finally preparing him for a vocational occupation in agriculture.

In North Carolina as in countless other states, much effort has been exerted toward proper direction of programming agricultural education at the high school level. Much effort has been made to meet the needs of the agricultural clientele. Consultants of national acclaim have assisted along with supervisors, superintendents, principals, teachers and laymen. As a result of this crash program, the first major break through in program planning occurred in North Carolina approximately three years ago. At that time an all-out effort was made to shift from the enterprise job method to the broad unit method.

A unit of instruction might extend over several weeks and include a number of daily lessons related to a problem. These units were categorized into six major learning areas:

Agricultural Leadership and Guidance, Agricultural Engineering, Soil Science, Plant Science, Animal Science and Agricultural Business.

In implementing this new approach, much emphasis is being placed on developing among students an understanding of the basic principles and concepts involved in modern agriculture. This means further emphasis on the employment of three major learning principles—practice, effect and association, oriented toward occupations.

The 9th Grade: This curriculum is student centered and occupationally oriented.

The design of this curriculum at the ninth grade level is based on the principle of vocational exploration and helping students prepare and make tentative choices for vocational opportunities in agriculture. It helps the student to decide whether he wishes to remain in agriculture or whether he should seek a career in other fields.

The ninth grade curriculum for sake of brevity is titled "Introduction to Agricultural Occupations." The title implies that instruction will not be subject matter centered—instead

it will be structured and taught in such fashion that students will be able to relate it to agricultural facets of the world of work.

The 10th Grade: Major emphasis has been structured with depth and breadth in the following broad areas which are flavored throughout with guidance and leadership; Agricultural Engineering, Agricultural Business, Animal Science, Plant Science, and Soil Science. These areas are undergirded with occupational guidance and leadership with emphasis on science and mechanics.

The underlying objectives of this Curriculum are:

- To help students develop an understanding of the basic scientific principles and concepts which have application in the broad field of agriculture.
- To apply some of these principles under laboratory condition or practical situations.
- To develop some of the more basic and simple shop skills.

At the end of the 10th grade course, the student should have tentatively decided whether or not he wishes to continue preparing for a vocation in agriculture, and perhaps



W. T. Ellis

CURRICULUM FOR A SINGLE TEACHER DEPARTMENT

AGRICULTURAL SCIENCE AND MECHANICS COURSE NO. 702						
10th	Ag. Engineering		Animal Science	Ag. Business	Plant Science	Soil Science
Leadership and Guidance						
9th	Ag. Engineering	Animal Science	Ag. Business	Plant Science	Soil Science	
INTRODUCTION TO AGRICULTURAL OCCUPATIONS COURSE NO. 701						

11th	Ag. Prod. (703)			12th	Ag. Management (704)		
	705.1 Ag. Construction	Soil and Crop Technology	General Horticulture		Ag. Mach. & Equipment	Livestock & Poultry Technology	Ag. Oper. & Management
Guid. & Ldsh.				Guid. & Ldsh.			

even select the specific occupation in agriculture he wishes to pursue. This course may conveniently be titled "Agricultural Science and Mechanics."

The 11th and 12th Grades: Optional offerings: Agriculture III and IV are considered misnomers in so far as describing the junior and senior curriculum. The offerings at these levels will be vocational preparatory in nature and will be structured so that the course will encompass instruction in a galaxie of agricultural occupations in the optional area.

Some schools perhaps will design their curricula to offer full year courses and others will find it fitting

and proper to structure the program so as to contain semester length courses or large blocks of instruction in no more than three of the major learning areas. An example of a course of this design would be, general horticulture, for several weeks, soil management, for a similar period of time and sufficient instruction in agricultural engineering to make the instruction in the other two learning areas more meaningful.

The design of the program in multiple teacher departments, will be somewhat different from that of the single teacher departments at the 11th and 12th grade levels. Although semester length courses may be offered as a part of the curriculum in

some multiple teacher departments, many of them will design their programs so as to offer full year courses. Even though the full-year courses are specialized to a limited degree, they are not specialized to the point they would be limited to a single occupation, but would include instruction pertinent to a cluster of closely related occupations.

It is not anticipated that any school will be able to offer all the unit courses in the option during a single year. Neither does one anticipate these courses as being terminal, although it is realized they will be terminal for some students.

BASES FOR CURRICULUM CONTENT. The content of the program at the 11th and 12th grade levels is based on several factors: such as the agricultural economy of the area, the kinds of employment opportunities, the aspirations and preferences of students, number of students available, personnel, competencies of teachers and facilities available.

SUPERVISED PRACTICE EXPERIENCE. Supervised practice or work experience is planned as an integral part of the vocational education in agriculture curriculum.

This supervised practice consists of those learning experiences, related to instruction, which require development beyond the normal school hour and class facility. It should utilize the realistic work opportunities made available at the home, the farm, the school, and community businesses for developing desired and needed student competencies in agriculture.

Program of Studies

Course Numbers	Course Titles
701	Introduction to Agricultural Occupations
702	Agricultural Science and Mechanics
703	Agricultural Production
704	Agricultural Management (Options for multiple teacher departments)
705.1 . . .	Agricultural Construction
705.2 . . .	Agricultural Machinery and Equipment
705.3 . . .	General Horticulture
705.4 . . .	Ornamental Horticulture
705.5 . . .	Forestry
705.6 . . .	Crop and Soil Technology
705.7 . . .	Livestock and Poultry Technology
705.8 . . .	Agricultural Chemicals
705.9 . . .	Agricultural Business, Operation & Management

VOCATIONAL AGRICULTURE CURRICULUM FOR A MULTIPLE TEACHER PROGRAM

12th Options	Agricultural Machinery and Equipment	Forestry	Agricultural Business Operation and Management	General Horticulture	Agricultural Chemicals
	Ldsh. 1 & Guid. 2	Ldsh. & Guid.	Ldsh. & Guid.	Ldsh. & Guid.	Ldsh. & Guid.
&					
11th	Agricultural Construction	Livestock and Poultry Technology	Ornamental Horticulture	Crop and Soil Technology	
	Ldsh. & Guid.	Ldsh. & Guid.	Ldsh. & Guid.	Ldsh. & Guid.	Ldsh. & Guid.
10th	AGRICULTURAL SCIENCE AND MECHANICS COURSE NO. 702				
	Ag. Engineering	Animal Science	Ag. Business	Plant Science	Soil Science
Leadership and Guidance					
9th	INTRODUCTION TO AGRICULTURAL OCCUPATIONS COURSE NO. 701				

1. Leadership
2. Guidance



Roy Smith

A Block System for Teaching Farm Mechanics

ROY SMITH, Teacher of Vocational Agriculture, Filley, Nebraska

A large number of vocational agriculture departments still offer only four years of project construction type farm mechanics instruction which offer the development of only a limited number of skills and where the only measure of success is the tonnage of completed projects that passes through the door of the shop.

Teachers of Vocational Agriculture are faced with a paradox in training farmers of the future. While mechanics increases in importance on modern farms, we are given less time each year for teaching the multitude of skills which we feel will be needed by tomorrow's agriculturists.

After spending my first year in this department, I was also faced with the problem that increased enrollment in vocational agriculture made it impossible for all students to have a project of sufficient scope to be challenging and still have enough room to work in safety and comfort. In order to solve the first problem of teaching more skills better in less time, while at the same time minimizing the effects of the second problem of space, I decided to try a different approach—blocked instruction.

The first step in setting up this proposed program was to select units of instruction to be included in each of the four years to provide the students with a maximum of well taught skills at the end of their high school careers. A schedule of skills taught in each of the four years is shown in Figure 1. After this was done, it was necessary to break the program down so that each class would have a minimum of 72 hours of farm mechanics instruction as prescribed in our state plan, while at the same time working in smoothly with the rest of the curriculum. The third and final step was to organize the instruction at each level so that the shop facilities would not be over taxed at any one time and so that there would be good quality teaching and educational activity during each period of instruction.

To implement the blocked instruction, the shop is divided into stations and the classes set up on a rotational schedule where students are required to participate in a number of activities in a given period of time. A rotation schedule for the farm mechanics instruction in Vocational Agriculture I is shown in Figure 2.

At this time, I have employed this method completely in Vocational Ag-

riculture I and II, and partially in Vocational Agriculture III and IV, and the results have been gratifying. There seems to be much more day to day continuity in classroom instruction as well as in farm mechanics. Farm mechanics activities have taken on more meaning where there is a definite goal to be achieved in a given period of time. There is very little of the old problem of fighting for floor space even though the en-

Figure 1. Farm Mechanics Units of Study Taught In Each Year of Vocational Agriculture at Filley High School

Agriculture I

Plans and bills of material
Hand and power woodworking
Basic welding
Concrete construction
Making electrical splices

Agriculture III

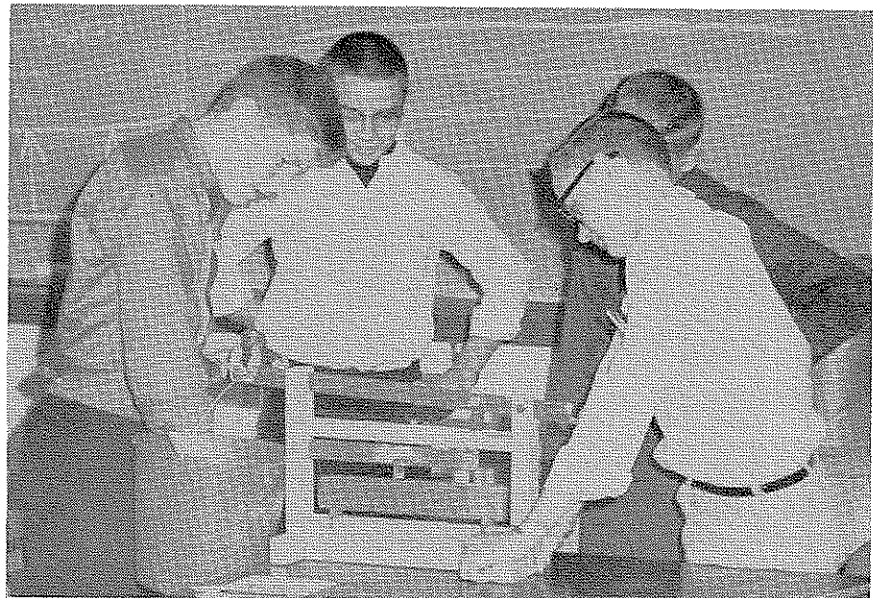
Slide rule instruction
Soil and water conservation
Farm electrification
Farm power
Farm machinery
Buildings and conveniences

Agriculture II

Advanced welding
Advanced woodworking
Managing farm service center
Project construction in shop

Agriculture IV

Farm mechanics management
Construction of large projects



Interest is high as freshmen students test concrete beams made as a class project to determine proper water:cement ratio.

rollment is up 20% this year.

Even the weaknesses I expected to show up have not materialized to any great extent. I had expected complaint from the classes that there are not two "shop days" in each week. This never came. Thus far, I have

not heard any objection from the parents whose sons are not able to construct farm equipment in the school shop. There are fewer class periods where the teacher does not have advance preparation, but on the other hand, farm mechanics instruc-

tion has taken on more meaning to me because of the feeling that much more is being accomplished. There is some confusion when a class first goes into the shop at the beginning of a block of farm mechanics instruction, but it is not nearly as great as that caused by 14 students trying to use 1 power saw or 3 welders at one time.

In short, the blocking of farm mechanics instruction in the curriculum has made a definite improvement in my department, and I feel should be strongly considered by all vocational agriculture teachers. □

Vocational Agriculture III (Note: Almost the whole 180 days this year is spent in farm mechanics, but not necessarily in shop work.)

Soil and water conservation
 terraces windbreaks
 waterways contour farming
 dams grassland farming

} conducted as field trips

Slide Rule instruction (classroom)

Farm Electrification
 Principles (classroom)
 Wiring SPST & SPDT switches
 Wiring 3-way switches
 Wiring 4-way switches
 Wiring entrance panel and branch circuits
 Servicing electric motors

} Rotation schedule

Farm Power
 Principles (classroom)
 Disassemble and assemble magneto
 Disassemble and assemble single updraft carburetor
 Wire electrical system and service electrical system
 Adjust valves and check compression
 Service power transmission systems

} Rotation schedule

Farm Machinery
 Principles (classroom)
 Adjust planting machine — corn planter head
 Adjust mowing machine
 Adjust tillage machine — plow and cultivator
 Adjust and service hydraulic system
 Adjust harvesting machine

} Teacher or student demonstrations

Farm Buildings
 Principles (classroom)
 Cutting rafters
 Laying out foundations
 Masonry construction
 Laying shingles and metal roofing

} Rotation schedule

Vocational Agriculture IV

Farm Mechanics Management (classroom)
 Fitting the farm mechanics program into the total farm management picture
 Selecting and buying machinery to fit the farm

Construction of large projects
 Equipment which will contribute to the total farming program
 Utilize skills learned in previous year(s)
 Suggested activities:
 Service and overhaul tractor or stationary motor
 Build electrical powered equipment
 Build automatic feed wagon
 Build grain box
 Build loading chute
 Build running gears
 Build shop equipment

EVALUATION . . .

Continued from page 239

agriculture can best be met through continuing evaluation by citizen advisory groups at the local level.

The best way to insure satisfactory national evaluations is to secure continuing satisfactory local evaluations. Continuing local evaluations can best be provided through school sponsored citizen advisory committees. Evaluators and legislators value highly the reports of such groups.

Now Is The Time For Action

The required periodic evaluations represent only that which we should have been doing all along. Because we failed, we are now being prodded in a not too gentle manner.

If we wish to play an influential role in the evaluation of our program, the time to take action is now. We must not wait until national evaluations have been completed. If our programs of vocational education in agriculture need to be changed, we should be the first to recognize that fact and the first to suggest the kinds of changes which will result in the needed improvements.

By virtue of the dedicated efforts of many people who believe strongly in vocational education in agriculture, we have been given the opportunity to demonstrate what can be done. Because of the legislated periodic evaluations, that which we accomplish will be known to the entire nation. If we have the vision and the ability to do what should be done, the Vocational Education Act of 1963 will forever mark the dawn of a truly golden era for vocational education in agriculture. □

"If we open a quarrel between the past and the present, we shall find that we have lost the future." Winston Churchill.



V. E. Christensen

Factors Influencing Classroom Achievement in Vocational Agriculture

V. E. CHRISTENSEN, Teacher Education, Cornell University

One of the ever present problems in vocational agriculture as in all teaching is that of how to give appropriate consideration to the great variety of differences in interest, motivation, attitude, aptitude, prior experience and a host of other variables that exist in a normal classroom. Each pupil entering the classroom differs from every other pupil in terms of his present command of the facts and figures, knowledge of scientific and technological principles, skills, techniques and general "know-how." Each, depending upon his own unique characteristics and home differences, profits to a varying degree from every learning experience.

Here are a few of the findings from a study¹ designed to investigate the influence of selected factors on the acquisition and retention of classroom learning in vocational agriculture.

OWNERSHIP—(Whether or not a student actually has personal ownership of animals similar to those being discussed in class.) The student's personal ownership of just one animal appears to be of benefit *only* in situations where the home has none of the animals. The students, in the study, received more benefit from working with a home herd of 10 or more head than from owning only one animal of their own.

NUMBERS OF ANIMALS OWNED BY THE STUDENT—The "sow and litter" type of experience program may have merits other than those considered within the boundaries of this study; however, it does not appear to be a defensible technique for providing experiences which might influence classroom acquisition or retention. For the livestock experience program to be beneficial to measurable classroom learning, the scope of the undertaking must be large enough to require managerial skills—to provide a broader range of experiences than are possible from

"low numbers" projects.

NUMBERS OF ANIMALS ON THE HOME FARM—(Of the type being discussed in class.) The student had to personally own up to 40 head before greater benefit in acquisition and retention could be measured as compared to working with a home herd of 80 or more (swine in this case).

PRIOR EXPERIENCE—The amount of first-hand experience by the student with the topic being discussed in class had greater influence on acquisition than on retention. An increase in experience, however, was of no measurable benefit to those students already assessed as being at the "managerial" stage. Prior experience was more influential upon gain in facts and figures than upon the learning of either scientific principles or ability to solve problems. The per cent of total measured gain of knowledge decreased as the amount of experience increased. This is, undoubtedly, not due to a cause-effect relationship but rather the result of a classroom situation where those who start at the bottom have the most to learn. Teachers, at times, spend a considerable amount of time teaching material which may be new to those low in experience but is already well known by the highly experienced. It is very possible that instructors in some classrooms end their units at a point where the highly experienced are first becoming exposed to new materials. This placement of a ceiling upon the amount of possible learning warrants careful consideration.

EXPRESSED CAREER INTEREST—Low classroom achievement and lower level occupational aspirations were found to be directly related. Students indicating an interest in occupations considered to be higher in social status were also found most likely to demonstrate higher gains and better retention

in the classroom. This direct relationship suggests it may benefit classroom achievement if the instructor encourages the learner to establish higher occupational aspirations than may appear feasible.

PARENTAL ATTITUDE—A direct relationship was found between the total amount a student gained and remembered from a classroom unit and the attitude of his parents toward the entire vocational agriculture program. Strong parental support was a most influential factor on greater gains and lower losses of knowledge. Working with the student's parents during home supervisory visits may be equal to or possibly more important than working with the pupils themselves where classroom achievement is the concern.

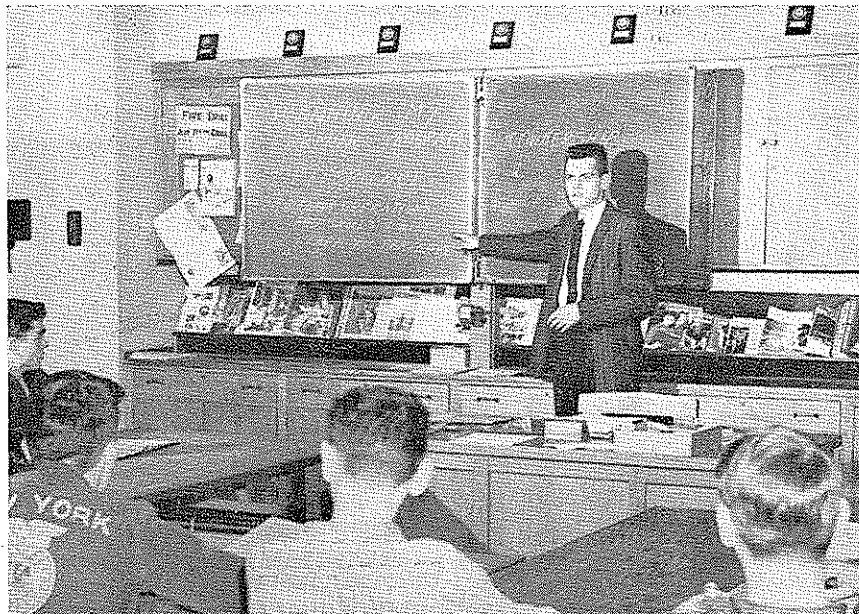
STUDENT'S OPPORTUNITY TO FARM—Those students from homes where the home farm afforded the learner with a more favorable opportunity to farm as a career had higher total acquisition and retention than those from farms providing the learner less favorable or no opportunity to farm.

INTELLIGENCE—Aptitude had greater influence on total classroom acquisition and retention than any other fact considered, including: ownership, prior experience, career interest, etc. Vocational agriculture being equally as demanding of students' aptitude and ability as any other subject matter area is not an appropriate substitute for the special classes needed in our schools to work with the low ability, the underachieving or academically disadvantaged.

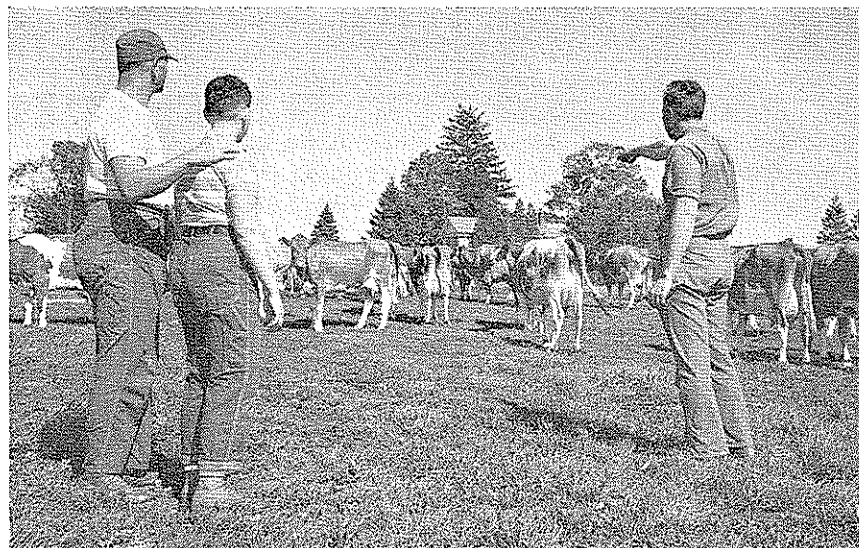
Several factors, considered in the study, were not found influential on classroom acquisition and retention including: the student's interest in farming as a career, the student's favorite farm animal, size of the home farm, father's time spent off the farm, major income producing



Prior experience can provide many facts and figures, however, classroom instruction and directed field experience are required for mastery of scientific principles and increasing problem solving ability.



To increase classroom learning, the scope of an experience program should be large enough to require managerial decisions.



Parental support of the program and involvement of the parent during supervisory visits are key factors influencing classroom achievement.

enterprises on the home farm, etc.

The study attempted to show the kinds and degrees of differences that exist among learners in vocational agriculture; to explore the factors which bring about and influence such differences, and to determine the extent to which these differences affect classroom acquisition and retention. The writer's basic concern in undertaking the study are best expressed by this comment:

As he faces a new class for the first time, the teacher is aware of tremendous differences among his students. But awareness of differences is not enough. He must, if teaching is to be successful, know the nature and extent of such differences, how they affect teaching and learning and the factors which account for such widespread differences among learners. The teacher who knows a great deal about learning, but little about the learner is only half prepared.² □

Footnotes

¹Christensen, Virgil E. "Factors Influencing Acquisition and Retention of Learning in Vocational Agriculture." Ph.D. Thesis, Madison: University of Wisconsin, 1964.
²Blair, G. M. et al, *Educational Psychology*, New York: The Macmillan Co., 1954, p. 114.

1,000 Leaders Attend California Conference on Vocational Education

Sharing a mandate to design plans for the re-establishment of the dignity of work and the value of labor, more than 1,000 community, church, industry, labor and school leaders met in Los Angeles in January as invited delegates to a two-day California State Conference on Vocational Education, first policy-level study of occupational training ever held on a statewide basis.

Planned to establish dimensions and directions for a far-reaching program of vocational training to meet current and future needs of the nation's total work force, the unique conference featured major presentations by federal, state and local authorities, according to James A. Herman, coordinator.

Called by Dr. Max Rafferty, California's state superintendent of public instruction, and jointly approved by the State Board of Education and the State Department of Education, the conference explored means of winning greater understanding, acceptance and support of vocational schooling. □

Competencies Needed for the Farm Machinery Worker

ALAN A. KAHLER and CLARENCE E. BUNDY,
Teacher Education, Iowa State University



Alan A. Kahler

Occupations in retail farm machinery distribution have long been considered a part of the retailing industry of the nation. Training programs have centered around the retailing aspects of the industry for those interested in employment in these occupations. Do males employed in retail farm machinery distribution need to possess competencies in agriculture in order to efficiently carry out the functions of their jobs? What degree of competency do they need to carry out these functions? Will employment opportunities exist in the future in the industry in Iowa?

The authors undertook such a study with the cooperation of the Agricultural Experiment Station and Department of Education at the Iowa State University, the Vocational Agriculture Section, Division of Vocational Education, State Department of Public Instruction and the Iowa Retail Farm Equipment Association, Des Moines, Iowa.

Gathering the Information

Fifteen of the most progressive and efficient farm machinery dealers in Iowa were asked to list the *important* agricultural competencies needed by males employed in the various occupational areas of retail farm machinery distribution. These competencies were listed in questionnaire form and submitted to 136 outstanding dealers and their employees in Iowa for evaluation. They evaluated (1) the degree the competencies were needed in order to effectively perform the functions of their jobs and (2) the degree of competency they possessed. A five point scale was used in evaluating each competency. A 4 rating was high and a 0 rating was low on the scale used. An additional survey form was devel-

oped and sent to the 1120 farm machinery dealers in Iowa asking (1) the number of persons employed in the various occupational areas in 1958 and 1963, (2) the anticipated number of employees to be employed in 1968, and (3) the ages of all employees presently employed.

Needed Competencies

Table 1 reveals the agricultural competencies listed by the panel of specialists and the degree each was needed and possessed by managers,

Table 1.

Competencies	Mean Scores									
	Managers		Sales				Service			
	Na	Pb	Employer N	P	Employee N	P	Employer N	P	Employee N	P
(N=100)	(N=48)	(N=48)	(N=34)	(N=54)						
<i>Understanding of</i>										
Farmers' present and future labor needs	3.3	2.7	3.1	2.5	3.1	2.7	2.2	1.8	2.1	1.7
Individual farmer's farming programs	3.2	2.6	3.0	2.3	3.2	2.5	2.3	1.7	2.1	1.6
Economic reasons for use of labor saving machines	3.7	3.0	3.4	2.6	3.5	2.9	2.5	1.9	2.5	2.1
Effects of weather on crop production	3.3	2.9	3.1	2.6	2.9	3.0	2.3	2.1	2.5	2.5
Livestock and crop production costs per production unit	2.8	2.2	2.9	2.1	2.7	2.3	1.8	1.4	1.7	1.2
Community soil conditions	3.0	2.6	3.0	2.6	2.8	2.9	2.2	1.8	2.5	2.1
Tillage methods used in community	3.0	2.4	3.0	2.3	3.0	2.4	2.3	1.6	2.4	1.7
Fertilizer application methods, costs and composition	3.5	3.1	3.3	2.9	3.6	3.3	2.6	2.4	2.9	2.8
Herbicide application methods, costs and control	3.0	2.1	3.1	2.3	3.1	2.4	2.2	1.5	2.0	1.3
Insecticide application methods, costs	2.9	2.5	2.9	2.4	2.6	2.6	2.3	1.9	2.1	1.9
Crop varieties, planting rates and maturity dates	2.9	2.5	2.9	2.4	2.6	2.6	2.3	1.9	2.1	1.9
<i>Ability to</i>										
Paint farm equipment	1.4	.9	1.5	1.2	2.3	1.1	3.4	2.9	3.7	3.0
Use a dynamometer in testing and improving the operation of internal combustion engines	1.4	1.2	1.2	1.2	2.0	1.1	3.2	2.6	2.6	2.9
Detect incorrect assembly or adjustment	1.8	1.5	1.5	1.2	2.3	1.7	3.4	3.1	3.4	3.3
Calibrate farm machines	2.6	2.3	2.7	2.1	3.1	2.5	3.7	3.2	3.7	3.3
Determine when parts need replacing	2.3	1.9	2.3	1.1	2.7	2.0	3.5	3.0	3.5	3.0
Use both arc and oxy-acetylene welders in making special process welds	2.8	2.6	3.1	2.5	3.2	2.8	3.7	3.1	3.6	3.4
Determine the relationship of ground travel to PTO speeds and capacities of machines	1.1	.9	.9	.8	1.1	1.2	3.3	2.6	3.1	2.4
Operate honing equipment	2.6	2.2	2.6	1.1	2.9	2.3	3.3	2.7	3.2	2.8
Associate machine parts with machine	.9	.7	.8	.7	1.7	1.1	3.4	3.0	3.2	3.0

^a 4—very much competency needed, 3—much competency needed, 2—some competency needed, 1—little competency needed, 0—no competency needed.
^b 4—possess very little competency, 3—possess much competency, 2—possess some competency, 1—possess little competency, 0—possess no competency.

Table 2.

Employment	Occupational areas							Total
	Managers	Sales	Clerical	Parts	Service	Dept.	Managers	
Employed in 1958 ^a	538	358	291	358	1243	98	98	2886
Employed in 1963 ^a	535	374	317	397	1387	124	124	3134
Total Employment in 1963 ^b	1064	745	632	795	2779	244	244	6260
Anticipated employment in 1968 ^a	536	451	349	439	1588	153	153	3516
Total anticipated employment in 1968 ^a	986	691	586	737	2576	226	226	5802
Employee increase 1958 to 1963 ^a	—3	16	26	39	144	26	26	248
Employee increase 1963 to 1968 ^a	1	77	32	42	201	29	29	382
Estimated total employee increase by 1968 ^c	3	120	50	66	311	48	48	598
Estimated employee replacement needs by 1968 ^d	136	50	29	29	112	5	5	361
Total estimated new and replacement needs by 1968	139	170	70	95	423	53	53	959
Estimated annual need of employees	27.8	34.0	15.8	19.0	84.6	10.6	10.6	192.0

^a Calculated from the responses of 505 dealers employing persons in 1958 and 1963 and anticipated specific numbers of employees in 1968.

^b Calculated from the responses of 723 dealers.

^c Calculated from the responses of 505 dealers and a projected 834 dealers in 1968.

^d Based on the percentage of employees over 60 years of age.

sales, and service employees. Because of space limitations only a portion of the data are shown. Mean scores for managers and sales employers and employees were highest for the understandings of economic reasons for use of labor saving machines, types of machinery used in the local farming area, machinery financing procedures, and farm machinery valuations and the ability to manage the trade-in inventory, adapt machinery size to farm operation, and estimate trade-in values of used machinery. Highest mean scores for service employees were noted for the understandings of the basic functions of each machine and machine part, types of transmissions, diesel power, and the relationship of lubricants to working parts of machines. For the abilities, highest mean scores for service employees were found for the ability to adjust and repair carburetors and electrical systems, adjust and repair diesel fuel injectors and fuel pumps, calibrate farm machines, and the use of both arc and oxy-acetylene welders in making special process welds.

In general, employers and employees felt a higher degree of competency was needed than was possessed in each competency. Mechanization and automation in farming and dealership operation have created changes in job requirements in the individual dealership. Employees have been unable to keep abreast with these and feel they need additional competency to perform the functions of their jobs.

Vocational Agriculture Training Important

Comparisons of the evaluations of employees with varying amounts of vocational agriculture training revealed that as the years of vocational agriculture training increased, the degree of competency needed and that possessed by managers and sales employees increased. Employees who had had no vocational agriculture had the lowest mean scores for the degree of competency needed, and possessed, whereas employees with 3 or 4 years of vocational agriculture indicated the highest degree of competency needed, and possessed. Due to insufficient numbers of service employees in the sample who had had any vocational agriculture training, comparisons were not made for this group.

Future Employment Possibilities

Data in Table 2 present an estimation of future manpower needs in the retail farm machinery industry in Iowa projected to the year 1968. Of

the 785 responding dealers, 34 (4.3%) had gone out of business prior to January 1, 1963. Thirty-one (3.95%) dealers had gone out of business since January 1, 1963, or indicated they would be out of business by December 31 of the same year. Using these percentages as a basis of computation, it was estimated that 1082 dealerships were in existence in 1963, but only 834 would likely be in existence in 1968. An estimated 5802 persons would be employed in 834 dealerships in 1968. Further estimates indicate that 598 new employees and 361 replacement employees would be needed at that time. Of the 959 estimated new and replacement workers, 44.7 percent (423) were service employees, whereas 30.9 percent (309) were managers and sales employees.

The numbers of persons employed increased from 1958 to 1963 and it was anticipated that the increase would continue through the 1963 to 1968 period. The largest increases were noted for service employees and the smallest for departmental managers.

Approximately 74 percent of all persons employed at the time the survey was conducted were between the ages of 25 and 54. Thirty-four percent were between 37 and 48, whereas 26.1 percent were between 25 and 36. The median age of all employees was 40.1 years.

Next Steps

Specific agricultural skills, abilities, and understandings are needed by managers and employees in retail farm machinery distribution in order to carry out efficiently the functions of their jobs. Educational programs should be developed at the post high school level to provide training that will update the skills, abilities and understandings needed by those presently employed in these occupations.

A need exists for cooperative vocational education programs at the high school and post high school levels to provide a complete instructional program for new and present employees in retail farm machinery distribution. These programs should include instruction in the technical and business aspects as well as in agriculture.

The occupational requirements of new employees in retail farm machinery distribution and persons presently engaged in farming indicate a need for establishment of area vocational schools. Programs in these schools should place major emphasis on instruction in farm machinery maintenance and repair, as it was found that

the largest number of persons presently employed and the largest increase in numbers to be employed were in the area of service.

Instruction needed in many of the competencies identified in this study for the various occupational groups cannot be provided completely through high school or area vocational school programs. Programs at the college or university level are needed to satisfy some of these needs. Colleges and universities should develop curricula that will provide higher level instruction needed by employees in these occupations. The programs should be geared primarily to the needs of present and prospective managers and sales employees. □

Project Supervision, 1965 Style

Student body President Wayne Parks (right) and Chapter President Don Bordessa (left) are shown conferring with agriculture instructor and FFA advisor Jack Lawrence during a recent project visitation via the latest trend in teacher transportation.

Possessing a commercial helicopter has helped Mr. Lawrence maintain flight currency and conduct project visits in the picturesque but winding coastline community of Tomales, California where he heads a one-man department of 36 members.

Parks and Bordessa rounded out their high school days this last year and look forward to putting their Future Farmer experiences to good use as Parks plans to enroll in Agricultural Engineering at California State Polytechnic College, and Bordessa has plans to stay in the dairy field. □





Lawrence W. Drabick

Student Aspirations in North Carolina Negro High Schools

LAWRENCE W. DRABICK, Teacher Education, North Carolina State, Raleigh

EDITOR'S NOTE:

An earlier article by Dr. Drabick appeared in the July 1964 issue. Both articles are based upon a staff research study completed last year.

In the spring of 1963, data were collected in 11 high schools in North Carolina chosen to represent a cross section of Negro schools which offer vocational agriculture. The study was conducted to determine the occupational and educational aspirations of vocational agriculture seniors and to compare these with the aspirations of their peers who were enrolled in other curricula. Questionnaires were administered to senior students in attendance on the day the study representative was present.

Occupational aspirations were measured by applying a modified version of the North-Hatt occupational prestige scale to the occupations named by respondents.¹ Educational aspirations were determined from replies concerning attendance at a four-year college. Differences in response between vocational agriculture and other students were tested for significance by the chi square statistic.

Aspirations of Vocational Agriculture Students

The occupational aspirations of vocational agriculture students were determined at two levels: the position they would like to have if there were no limitations operative upon the choice; and the position which they actually anticipated upon completion of their education.

The occupational aspirations of many of the students were quite low. Only half of them desired occupations above the prestige level of 60 on the North-Hatt scale, column 1, Table 1. It is perhaps significant that this score tends to separate the managerial from the entrepreneurial occupations; it also serves as a dividing line between the professional and nonpro-

TABLE 1. Desired Occupation and Expected Occupation, by Prestige Rating

Prestige Rating of Occupation	Per Cent of Students Who Desire Occupation of This Prestige Level		Per Cent of Students Who Expect Occupation of This Prestige Level	
	Vo-Ag (N = 100)	Other (N = 42)	Vo-Ag (N = 97)	Other (N = 45)
40-49	1.0	0.0	2.1	0.0
50-59	20.0	2.4	31.9	17.8
60-69	34.0	26.2	37.1	28.9
70-79	21.0	42.9	19.6	40.0
80-89	17.0	21.4	5.2	13.3
90-99	7.0	7.1	4.1	0.0

fessional occupations. Further, relatively few students expressed even a "desire" for occupations in the highest prestige ranges.

Students decreased their aspirations when requested to name the occupations they actually expected to occupy. More than two thirds of the vocational agriculture students anticipated employment in occupations below the prestige rank of 70, column 3, Table 1. In other words, most expected that their employment would enjoy no more prestige, say, than that of a tenant farmer or a garage mechanic.

Student aspirations for continued education were more optimistic. Consistent with the American ethic, the majority reported that they would like to attend college, column 1, Table 2. A third of the sample indicated that they had plans to attend college immediately following high school graduation and a fourth were able to name the college in which they would be enrolled, columns 3 and 5, Table 2. These latter figures were uncommonly high and represent continued educational plans for considerably more of these students than was true of a comparable sample of white students.²

Comparison of Vocational Agriculture and Other Students

The aspirations of vocational agriculture students were lower than those of seniors enrolled in other curricula. They neither desired nor anticipated occupations of as high prestige, Table 1. They did not so

frequently plan to attend college nor were they as able to name the college of planned attendance, Table 2.

It is customary in aspiration studies to investigate the socio-economic backgrounds of the students to determine if these may be variables which help to explain observed aspirational differences. In this instance, investigation was made of personal variables affecting the students, the sources of influence upon occupational and educational decisions, intention to migrate, and a number of family factors. On only two of the variables tested was there a significant difference between the vocational agriculture and the other students; more of the vocational agriculture students were from rural residences, and fewer of the vocational agriculture students attained IQs of 100 or more.

Implications for Educators

The findings of this study contain serious implications for education—both the specific program of vocational agriculture and the more general program of the high school.

● Of the 97 vocational agriculture students who named an expected occupation *only two thought they would become farmers*. This means that a program of vocational agriculture restricted to production practices is not adequately meeting the needs of its enrollees. Many of its graduates will have no connection with agriculture. They require an education which will

¹National Opinion Research Center, "Jobs and Occupations: A Popular Evaluation," *Opinion News*, 9 (September 1, 1947) pp. 3-13.

TABLE 2. Educational Desires, Educational Plans, and Ability to Name College of Attendance

Nature of Response	Per Cent of Students Who Desire to Attend College		Per Cent of Students Who Expect to Attend College		Per Cent of Students Able to Name College of Attendance	
	Vo-Ag (N=109)	Other (N=51)	Vo-Ag (N=111)	Other (N=51)	Vo-Ag (N=112)	Other (N=51)
Positive	91.7	90.2	33.3	52.9	25.9	51.0
Negative	8.3	9.8	66.7	47.1	74.1	49.0

prepare them to be citizens of a broader world and workers in other vineyards.

The contention has been made that vocational agriculture does in fact contribute to the citizenship development and the improved work habits of those who take it. It further has been maintained that the program in some way contributes desirable skills to individuals who go into quite different occupations. The inclusion of such a large proportion of students whose interests are not agricultural means

that the administrator and teacher responsible for the program must take steps to insure that these alleged results are indeed attained. Additionally, they must somehow broaden the program offering to meet the expressed needs of all the students who are in it.

- The observed difference in intelligence of the students who do and do not enter the program of vocational agriculture ultimately must be detrimental to the program. It is impossible to carry on a quality educational en-

deavor when the recipient students consistently are among the less able in the school system. Plans must be made to secure the entry of the more able student into the agricultural program.

- To be responsive to student needs, the schools must offer a more attractive and meaningful array of curricula. In many instances there may not be more than two programs in which a boy may enroll. Most frequently, agriculture is the sole vocational course open to him.

There appears to be an overemphasis upon the academic aspects of the high school program. While this may not be detrimental in itself, it has led to a deficiency of vocational educational offerings.

- Many educators in the schools sampled tend to consider high school solely as preparation for college. This attitude has been internalized by the

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Howard Christensen

A Key Teacher Decision-- Hold The Ball Or Pass It

HOWARD CHRISTENSEN, Teacher-Education Nevada State University

Norman Van Brocklin, Coach of the Minnesota Vikings, is reported to have said of his job as quarterback, after winning the most valuable player award in N.F.L., "The only time that I run with the ball is in self defense." This statement, thought of in light of the teacher, has great meaning. The most critical point in the steps of good teaching is the point at which the teacher passes the "ball" to the students.

Anyone who has coached football knows that the most critical point in a good offense is the quarterback's timing in releasing the ball to a teammate. We have teachers, like quarterbacks, who come in several shades of timing. There is the teacher we could label "fickle fingers" who never really gets hold of the ball. He never seems to put over the point. He is weak in his demonstrations and presentations. He lacks the concept that before one can "pass the ball" he must first get a complete grasp on it. This "fickle fingered teacher" seems never to be able to adequately demonstrate the key points. He never seems to lay the

proper background. His instructions and directions get lost in the mud and, as a result, when he turns the students loose to practice or study the final project reflects the quality of the instruction.

Teachers Who Love to Hear Themselves Talk

The opposite extreme to the "fickle fingered teacher" is the "ball hog." He is the teacher who may love to hear himself talk. He might be a fellow who deeply feels he is really more qualified to run with the ball than anyone else. As a result, he usually does not provide time for adequate student practice. He does not clearly think through this important question, "What shall I have the students do to gain mastery of the subject?" In athletics the "ball hog" type of teacher is more obvious than in other fields. He is the coach who loves to play with the boys and make most of the points. He keeps his ears open to hear such sweet music as, "Mr. Big is as good now as he was at State U." This coach often has such a love affair with the

past or himself he may never be jarred back to earth when he hears such sour notes as, "Why doesn't our team win any games?"

The "ball hog" type of teacher, after a few hard knocks, may come to the realization that teaching is more than a personal performance, but it's what the student learns himself that counts. He learns the hard fact of teaching, that he must get his recognition through the accomplishments of the students. Experience teaches him he doesn't need to say, "these are my boys," people will know.

The "fickle fingered teacher" may be hopeless. His fault may be a deep-seated inferiority complex, or a lack of academic training. This teacher may be compared to the situation of the farmer who asked to see the action of a beautiful horse. The horse was turned into the field. He trotted off with a flourish, then ran into a post. The farmer said, "He is blind." The trader responded, "No, he is not blind, he just doesn't give a damn."

Teacher trainers have often been guilty of over simplification by the

use of such patented slogans as, "Good teaching is effectively passing the buck," or "Authorize, deputize, and supervise." Some have often used the technique of "Pat them on the back and kick them in the you know where and they will be an instant success."

No Substitute for Experience

By the above slogans a novice may get the idea that the teacher really doesn't do anything except deal out all of the work to others. Unlike "instant coffee" most good teachers need to be "boiled" in the school of experience. Successful teachers have the knack of evaluating their instructional methods and make their own improvements and adjustments. They



C. E. Richard

For more than a decade opportunities for professional employment in the fields of agriculture have increased.¹ With few exceptions, the enrollments in land-grant colleges of agriculture decreased during the same period. Consequently, the number of college students preparing for professional occupations in agriculture is inadequate to fill the available jobs.

In an attempt to find ways of remedying this situation, a study² was made in Virginia in 1964 to learn why college bound students from rural high schools selected a curriculum other than one in agriculture.

Procedure

A form was prepared by the V.P.I. Agricultural Education staff on which a high school senior, who had enrolled in a college curriculum other than agricultural, could quickly indicate his reason or reasons (in order of importance) for not enrolling in an agricultural college curriculum. Copies of this form were mailed to the head teacher in each of the white

¹ *There's a New Challenge in Agriculture*, a 22-page booklet published by the American Association of Land-Grant Colleges and Universities.

² C. E. Richard and B. C. Bass, "Report of a Study to Determine Why Rural High School Senior Boys in Virginia Who Planned to Enroll in College in September 1964 Selected a College Curriculum Other Than in Agriculture." 8 pages. Department of Vocational Education, Virginia Polytechnic Institute, Blacksburg.

develop a sense of timing, a professional manner, and most of all, a love for teaching. They learn wisdom in knowing what they can deputize others to do and what they must do themselves.

One basic fundamental is the teacher must first accept his responsibility as a teacher. He can no more abdicate his role as the one responsible for setting standards, objectives, and leader of the class, than the quarterback can refuse to accept the football.

A good football offense has a balance between passing and running. A good instructional program must have a balance between time spent in

teacher centered activities, as demonstrations and presentation of subject matter; as compared to the time spent in application by the student, such as, practice and supervised study.

Courses are being offered in some states in defensive driving. The most successful teachers learn methods of defensive teaching. The best defense against fumbled lessons, and muddying thinking and often discipline problems is to first do a good job of instruction before there can be productive application. Good teaching, indeed, has the grace, timing, and execution of play of the best football team with the outcome many times higher. □



Dr. B. C. Bass

Why Don't They Enroll in An Agricultural College?

C. E. RICHARD and B. C. BASS, Teacher Education, Virginia Polytechnic Institute

TABLE I

Extent Rural High School Senior Boys, Who Enrolled in a College Curriculum Other Than Agriculture, Had Studied Vocational Agriculture While in High School

Number	Students who had completed vocational agriculture while in high school to the extent of:					Students who did not reply	Total
	0 Yrs.	1 Yr.	2 Yrs.	3 Yrs.	4 Yrs.		
503*	39	31	18	32**	81	704	
Per cent	71.5	5.5	4.4	2.6	4.5	11.5	100

* Includes three students who had studied agriculture ½ year in the eighth grade.
** Includes one student who had studied vocational agriculture 5 years.

departments of vocational agriculture in Virginia.

Scope

The study was made during April and May, 1964, in the rural high schools in Virginia where vocational agriculture was being offered for high school credit. Replies were received from 704 high school senior boys in 85 high schools.

Summary of the Findings

The information summarized in Table I revealed that of the 704 rural high school senior boys who had enrolled in a college curriculum other than agriculture, 503, or 71.5 per cent, had not studied vocational agriculture while in high school. A relatively small percentage (17.0 per cent) of the boys who had studied vocational agriculture one or more years enrolled in a college curriculum other than agriculture. Only 4.5 per cent of the boys who had studied vocational agriculture four years while in high school enrolled in a college curriculum other than an agricultural curriculum.

Approximately one-third (34.4 per

cent) of the college bound students, who enrolled in a curriculum other than agriculture, lived in towns (Table II). About another third (32.7 per cent) lived in rural areas but not on farms, and about one-fourth (27.7 per cent) lived on farms.

Conclusions and Recommendations

The data gathered for this study indicate that rural students who do not enroll in vocational agriculture while in high school tend to select college curricula other than agricultural curricula (Table I). However, this does not mean that information about employment opportunities in the industry of agriculture should be withheld from high school students who do not enroll in vocational agriculture. In fact, the lack of access to information about opportunities in agriculture seems to cause high school students not to consider qualifying for professional work in the industry of agriculture.

Most of the students who participated in this study lived in rural homes (Table II). More lived in rural non-farm homes than lived in

TABLE II
Extent Rural High School Senior Boys, Who Enrolled in a College Curriculum Other Than Agriculture, Lived in Urban and Rural Homes

Number	Students lived in:				Students who did not reply	Total
	City	Town	Rural not on farm	Rural on farm		
25	242	230	195	12	704	
Per cent	3.5	34.4	32.7	27.7	1.7	100

farm homes.

Each of the 615 rural high school seniors, who provided information for this study, reported that his interest in an occupation other than an agricultural occupation was the most important factor influencing his selection of a college curriculum other than an agricultural college curriculum. This was 94.0 per cent of the students who participated in this study. Therefore, it was concluded that the individual's interest in an occupation which requires college training was the most important factor influencing these rural high school seniors in their selection of a college curriculum. It was further concluded that, if enrollments in agricultural colleges are to be increased, a way must be found to develop the interest of more high school students in agricultural occupations prior to the time such students enroll in college.

Because nearly half (44.18 per cent) of the rural high school seniors who furnished information for this study reported that they were not acquainted with the opportunities for employment in the industry of agriculture and because 43.9 per cent reported that they had been advised that there are more and better opportunities in other occupations than in agriculture, a special effort should be made by high school guidance counselors, teachers of vocational agriculture, and teacher educators to acquaint all high school students, especially those in rural areas, with the occupational opportunities in the industry of agriculture. It is recommended that the teacher(s) of vocational agriculture in each rural high school prepare, arrange with his (their) principal, and present to the high school students, preferably with their parents present, a program designed to inform high school students and their parents of the occupational opportunities in the industry of agriculture. It is further recommended that such a program be presented annually as early in the school year as practicable so that the senior students will have the information prior to the time of year that students normally apply for college entrance.

High school guidance counselors and teachers of vocational agriculture

should be furnished, by the V. P. I. school of agriculture, as much information as possible about the occupational opportunities in the industry of agriculture. □

TABLE III
Summary of College Bound Rural High School Seniors' Reasons for Not Enrolling in an Agricultural Curriculum

Reasons	Total	
	No.*	%**
1. Could not meet entrance requirements of an agricultural college	97	13.8
2. Application to enter agricultural college was disapproved by the college	48	6.8
3. Interested in working in an occupation other than agriculture which required college training	662	94.0
4. Could attend another college at less expense than an agricultural college	91	12.9
5. Parents advised an occupational choice other than agriculture	148	21.0
6. Teachers advised an occupational choice other than agriculture	87	12.4
7. Guidance counselor advised an occupational choice other than agriculture	94	13.4
8. Not acquainted with the opportunities for employment in the fields of agriculture.....	311	44.2
9. Advised that there are more and better opportunities in other occupations than in agriculture	309	43.9

* Does not total 704 because each participant gave as many reasons as applicable.
** Does not total 100 per cent because each participant gave as many reasons as applicable.

John Holcomb, Associate Professor in Agricultural Education, from Texas A and M University, spent four weeks in Mexico as a consultant to the University of Coahuila and the Ford Foundation in a program which is being initiated to improve agricultural instruction on the secondary level.

Themes for the Agricultural Education Magazine

July-December, 1965

- 1965
- July—THE VOCATIONAL EDUCATION ACT OF 1963
- August—PHILOSOPHY AND OBJECTIVES
- September—THE NEW OCCUPATIONAL MIX
- October—USING RESOURCES OUTSIDE AGRICULTURAL EDUCATION
- November—RESEARCH
- December—PLANNING LOCAL PROGRAMS

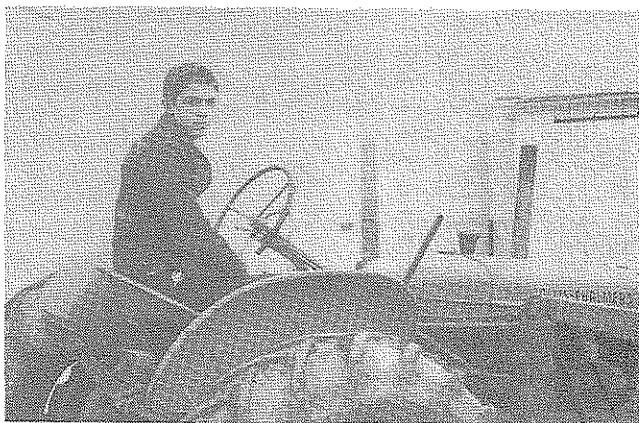
Student Aspirations? . . .

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students and is reflected in the inordinately high per cent who plan to attend college. This viewpoint overlooks the many students for whom college is unreasonable or impossible. More than half of the seniors in the sample did not plan to attend college. For them the academic emphasis was impractical and the lack of adequate vocational education was tragic. Additionally, more than half of the students who had entered eighth grade were not represented among these seniors. They had dropped out along the way. Diversified vocational education would have kept many of them in school; further, it would have provided them with the basis for an occupational skill which could have de-toured many from their ultimate fates of under or unemployment and condemnation to the unskilled, low-salaried occupations.

● Students must be prepared to engage in the industrial society in which they live. Upwards of two-thirds indicated that they will migrate from their current community when they are able. An education which will fit them only to continue the type of life they have known locally will be inadequate. The school must equip these students to participate in a world of greater scope than that into which they were born and reared. It must do this in full knowledge that although it thereby enables the better student to remove his talent from the community it must put his interest before that of the local society.

● Machinery, equipment, and competently trained teachers must be obtained to implement the emphasis upon balanced vocational education. This may take time but it need not prevent immediate initial action. Students must be made aware of the range of vocational opportunities now available. There can be no contentment with students who aspire to occupations of low prestige simply because they are unaware of others. Here is a point at which educators can begin with no increments in equipment or facilities. It is a particularly appropriate point of beginning for teachers of vocational agriculture, whose students have been shown to be the least acquainted with vocational opportunities and to have lower aspirations than do their peers. □



Dennis Utz is president of the North Carroll FFA chapter. His father is a full time heavy machine operator for a local construction company. They live on a farm of approximately 80 acres where the chief source of income is beef cattle. The farming is done entirely with family help and on weekends and evenings. Dennis himself works part time as a carpenter's assistant.

A Way of Life

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least, part-time farmers produce more efficiently than full-time. In any event, the part-time farmer is producing food and fiber that is needed by our country and thereby rendering a useful service.

Vocational Agriculture Can Serve Part Time Farmers

In many parts of the country we have deplored the decreasing enrollments in our Vo-Ag classes. With its traditional emphasis on production agriculture and the present reduction in number of opportunities for establishment in full-time farming, this decrease is not unexpected. Now, with the new emphasis in Vocational Agriculture making it training for vocations in the total field of agriculture, instead of being limited to farming, we can recruit—indeed we *must* recruit students from this growing segment of our farm population. What better place could there be to find workers for the processing of farm products, transportation of farm products or supplies and providing service to farms? Most of the boys and men who come from these farms have little or no opportunity to enter farming on a full-time basis. Yet their farm background, supplemented with training in Vocational Agriculture will ideally fit them for these jobs. At the same time the farm equipment sales and service organizations, food processing plants, feed mills and distribution plants are within reach of these boys and men who will be living on the small farms and doing part-time farming. Our duty is plain. We must interest these students in this kind of agricultural employment and adapt our training programs to meet their needs. In each area where part-time

farming is important the teacher must determine what the needs are and adjust his program accordingly.

A Different Group of Students

Obviously, there are problems attendant to this kind of Vocational Agriculture. Many of the Vo-Ag students you will recruit will not be of the highest calibre. However, many of the jobs available in agriculture do not require as high intelligence as does modern farming. Proper adaptation of teaching meth-

News & Views of The Profession

DR. CARSLIE HAMMONDS, Professor emeritus of the University of Kentucky received the \$500 Distinguished Service Award of the American Association of Teacher Educators in Agriculture at their meeting in Minneapolis in December.



Dr. Carslie Hammonds

teaching at all levels of public education—elementary, secondary, and higher education—contributing to the development and improvement of all of these levels of public education. He is known nationally and internationally as one of the outstanding men in agricultural education in the United States. He has made significant contributions in the philosophy of the psychology of learning, the improvement of teaching, and of agricultural education. He has not only distinguished himself for over fifty years as an outstanding teacher, but he has also received recognition as a

capable speaker, a competent writer, and valued counselor and consultant.

ods and programs will help to meet this need. Coming from the smaller, and sometimes poorer farms, many of these students will be unable to qualify for top FFA honors. This may require an adjustment in local, state and national awards systems. Most Vo-Ag students would enter farming as a full-time vocation if it were economically possible. Since it is not, many of them will return to the land as part-time farmers after earning enough money to purchase land. Some will use this as a step toward eventual full-time farming. Others who will be unable to find employment in agricultural occupations will live on farms and work in industry. We can do them immeasurable service by training them to be efficient farmers even though on a part-time basis. This will help increase their income and improve their standard of living.

Although it can be said that small-time farming is a poor way to make a living, it is equally true that part-time farming, on a small farm, combined with full or part-time employment off the farm, is a good way of life and a way of life that will be with us for many years to come. □

Dr. Hammonds had his first experience as a school teacher in a rural elementary school. From that beginning he has demonstrated exceptional skills and abilities in the profession of

capable speaker, a competent writer, and valued counselor and consultant. Dr. Carslie Hammonds retired this year as Chairman and Professor of the Department of Agricultural Education at the University of Kentucky, Lexington, Kentucky, where he has served in this capacity since 1925. Dr. Hammonds has completed an enviable record in terms of years, of variety of contributions and of quality of service to the profession of agricultural education. During the past 50 years, he has served in many aspects of education, beginning as a rural elementary teacher in Russell County, Kentucky, as a teacher of vocational agriculture, basketball coach, principal, critic teacher, and then since 1925, as a professor of agricultural education.

Dr. Hammonds conducted and directed numerous research studies including eleven doctoral dissertations. His service in writing in the field of education includes serving four years as editor of the Agricultural Education Magazine, serving as contributing

editor of the American Vocational Journal, publishing the booklet, "Contributions of Leading Americans to Education." He is also the author or co-author of thirteen books in the field of agriculture and agricultural education, and has written numerous editorials and articles for the Agricultural Education Magazine.

Dr. Hammond's professional services include serving as a member of the national committee which wrote "Educational Objectives in Vocational Agriculture," as a consultant on the improvement of college teaching, as a member of the national committee on the improvement of instruction of American Association of Colleges for Teacher Education, as a consultant on the improvement of

teaching for Negro educators in agricultural education, as a speaker at more than 100 high school commencements, and 19 annual conferences for workers in vocational agriculture outside of Kentucky. He has also served as a speaker at the Central, North Atlantic, and Southern regional conferences for workers in agricultural education.

In addition to all of these professional activities, this man has had time to be a family man. He has three children and four grandchildren, has been a Sunday School teacher for the business men's Bible class for over twenty years, and is a member of various professional and civic organizations. He is listed in Who's Who in America. □



N. V. A. T. A. News

Sam Stenzel
President NVATA

The NVATA has established itself as the voice of Vocational Agricultural Education. To continue to merit this high recognition, it must continue to maintain a high percentage of its potential membership. Records indicate that over 90% of all Vocational Agricultural Educators in the United States, Puerto Rico, and the Virgin Islands join the NVATA annually. This percentage is a definite factor in determining the effectiveness in attaining its goals.

In order to maintain, improve, and add to the services for its members, additional revenue will need to be secured from the membership. The NVATA's annual dues were increased from \$1.50 to \$3.00 at the Los Angeles Convention in 1960. Within these past five years, the NVATA has made great strides in attaining its objectives. Two of those objectives were to obtain the services of a permanent Executive Secretary and to bring the NVATA closer to its membership by more frequent visits of NVATA officers to State Associations.

With the current rise in prices, it is becoming increasingly difficult for desired and needed services to be rendered with dues established five years ago. There was considerable discussion at Minneapolis to the effect that the rebate provision of the AVA dues should be rescinded and NVATA dues increased to \$5.00. This merits serious consideration by all Associations.

The 1965 convention is the ideal time to consider raising the annual dues. Since the Executive Committee did not include the AVA dues rebate funds when the 1965 fiscal budget was approved, those funds will help carry the load for fiscal 1966. But keep in mind, should the dues be increased in Miami, the additional funds will not be available until fiscal 1967. Unless the leaders of the Associations wish to curtail the activities of their National Association, it is necessary that action on a dues increase be considered (and passed) at Miami in 1965!

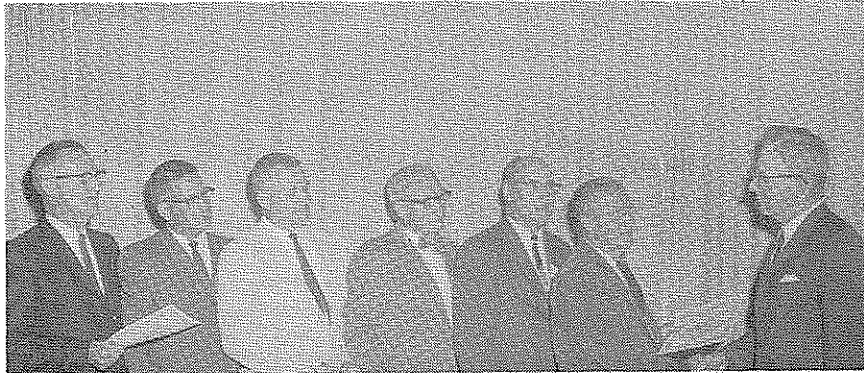


The National Center is currently engaged in a summarization of the agricultural occupations studies to determine needed extensions in the curricular patterns of vocational education in agriculture to serve non-farm agricultural occupations. Some of the members of the task force are shown in a planning session on the project; left to right, seated, Glenn Z. Stevens, Professor of Agricultural Education, Pennsylvania State University; Robert E. Taylor, Director, National Center; H. M. Hamlin, Professor Emeritus, Agricultural Education, University of Illinois; standing, James K. Baker and James E. Christiansen, Research Associates.

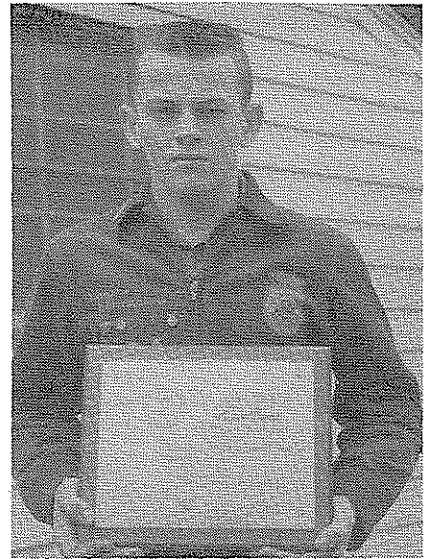


Don McCabe indicates that Future Farmers play an important role in establishing Rural-Urban Relationships. Looking on are Gene Gentry, Graduate Assistant, Howard P. Addison, Teacher Training at the University of Maryland, and Dave Miller, Exhibit Chairman. This exhibit was displayed in the American Savings and Loan Association during National Farm-City Week, November 20-26. The American Savings and Loan Association is located on 15th Street in Washington, D. C., across the street from the Treasury Department.

Stories in Pictures



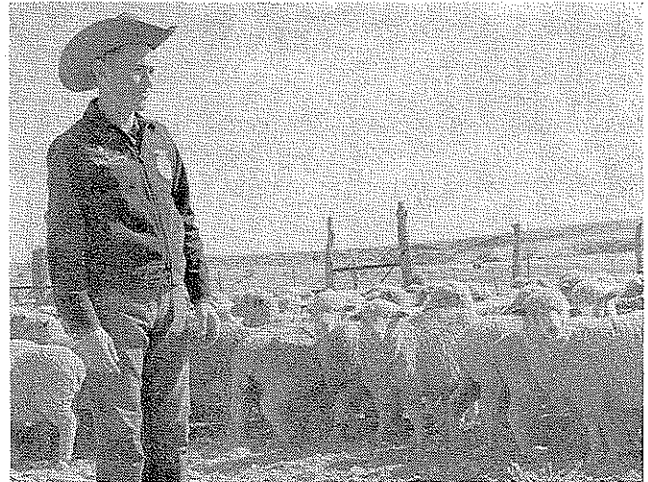
Certificates and keys recognizing twenty years of teaching vocational agriculture were presented by Julian M. Carter (at right) past president of the Association of Teachers of Agriculture of New York, shown congratulating Donald Robinson as other award recipients look on (left to right) Eugene Huff, Howard Teal, Ernest Stedje, Walter W. Fisk and Perry Cobb. (Photo by W. W. Sharpe, Canastota)



This Audubon FFA member is the proud recipient of the chapter's safety award. He is now training to be a Vo Ag teacher at Iowa State University. Photo by J. E. Hamilton, Audubon, Iowa.



Future Farmers at Oswegatchie Camp, New York, are instructed by Ben Widrick, conservation counselor, on tightening the chain saw in the shop preparatory to cutting down trees as a part of the woodlot improvement program on the 1200 acre camp area located in the Adirondack Mts. foothills, much of which is covered by forest. (Photo by Perry Cobb, South Otselic)



Bill McKnight, Roswell, New Mexico, FFA member won the state junior wool grower's award. Bill has a partnership with his brother Jim in 400 sheep. They have leased a six section pasture and carry out the ranching operation by themselves with advice from their father, J. M. McKnight.



Animal science instruction is given a high school vocational agriculture class in an attractive North Carolina classroom.