

Stories
In
Pictures

GILBERT S. GUILER
Ohio State University



Teaching agri-business classes requires specialized training on the part of the teacher. A group of vocational agriculture teachers are taking part in a horticulture seminar at Ohio State University.



Training in Nursery operation at Breaux Bridge, Louisiana has become a popular part of the Vocational Agriculture curriculum. Photo—Atherton

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Featuring
Multiple Teacher Departments

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Editorials

Tradition vs Specialization

A Vocational Agriculture Department has traditionally been a 1-man operation. The effective teacher has always used advisory committees, formal or informal. Assistant teachers have been available at times, such as the War Production Training Programs and the Veterans On-Farm Training Programs. Other special aids, such as the widespread canning plant operations, have been used to increase or broaden the scope of the vocational agriculture program in the community. However, the responsibility for all of these programs in most communities has been with one man—the teacher of vocational agriculture.

Along with the one teacher there developed through the years the notion of "a complete program" of vocational agriculture in a community. Although this rather big idea was defined differently in different states, the main point was that any program of vocational agriculture in a community would include adults as well as boys. Some policies included Young Farmers as well as Adult Farmers in the adult phase of the "complete" program. The program for boys included shop work, FFA, supervised practice including home visits by the teacher, and other activities thought to make the program more effective. In addition, the teacher had certain public relations responsibilities professionally and generally. In his teaching program, he was to include *everything* of importance to agriculture in the community. In short, he was responsible for developing the complete program of vocational agriculture in the community—a big order.

This "1-man, complete program" concept is fascinating but perhaps impossible to implement. However, many teachers have tried with widely varying degrees of success. Some years ago, a national magazine carried a feature story on one of these teachers, treating his work in the community much as an article today on an effective Peace Corps Volunteer. The pioneer educational role of the teacher of vocational agriculture needs to be written. Yet, as is often the case, tradition may be a major obstacle as we move to multi-teacher situations.

The multi-teacher situation for vocational agriculture is not new. Some have been in operation in California, for example, for many years. However, recent consolidations of high schools in many parts of the country have created a new phenomenon. That is, the combining of several 1-teacher departments into one department. Sometimes this places teachers who have years of experience in 1-man departments in entirely new roles. Apparently some of them have difficulty adjusting to this new, developing role.

The argument here is that we have been entirely too slow in developing rationale and effective procedures for all concerned in this transformation. The new department and resulting program should be *entirely different* from the former 1-man programs. The situation is different educationally, psychologically, sociologically, and philosophically. No one is suddenly an expert in all of these areas. The teacher education program directed at the 1-man program may be entirely inadequate for the multi-teacher situation. The supervisor who attended, taught in, and has been supervising 1-man departments for years may not be of much help in this newly developing system. It is my belief that the new phenomena of multi-teacher programs have not received enough special consideration by teachers, supervisors, teacher educators or researchers. It is my guess that the most important single advantage of the multi-teacher situation is giving each teacher full opportunity to become an effective teacher in a *specialized area*, forgetting the concept of a "1-man, complete program".

Cayce Scarborough

Cover Picture

J. R. Rabon, right, Young and Adult farmer coordinator in the West Columbus High School, Cerro Gordo, North Carolina, makes a point concerning the 1966-67 curriculum plans in a multiple teacher department. Others in the picture are: left to right Principal David Singleton and the other teachers Monroe Enzor, Jr., R. A. Waddell and B. J. Brady of the Voc. Agr. Department. Photo by Hair



Cayce Scarborough

Theory and Practice

Why have researchers not been more interested in the multi-teacher situation? Or have I over-stated the problems in these situations? Walt Jacoby, Youth Director AIC, then supervisor in Connecticut, did a national study of the situation a few years ago. Other studies that I know about are master's studies or others dealing with local situations. It seems to me that more research in depth is needed for the teachers and all others concerned in these programs. The rapid disappearance of these "extra" teachers in some multi-teacher situations indicates the urgency. In some cases the number of teachers are 5, 4, 3, 2 all within a few years.

Note the suggestion of Dr. H. M. Hamlin in the Guest Editorial that some of us sinners should take advantage of our opportunity to "Repent and Go Straight"! Although I cannot accept the rationale for his argument, I believe that the growth of what he terms "non-vocational agriculture" is certainly going to occur whether we now in Agricultural Education have a part in it or not. Overlooked in condemning enrolling high school youth in vocational programs is the *necessity* of exploratory experiences in any effective program of vocational education. Research in vocational development and career patterns clearly indicates that it is not educationally sound to enroll teen-agers in "specific training for specific jobs." Likewise, the Vocational Education Act of 1963 clearly includes those attending high school. In fact, these young people are the first group listed in the Act. Furthermore, the Act specifically states that the vocational programs are "suited to the needs, interests, and abilities" of these young people. Whoa, I must not be ready to hit the sawdust trail, Dr. Hamlin, you will need to work on me a few more years!

I bet some of you would not be willing to take a close look at the other side of the old pragmatic argument for test-
(Continued, Page 28)

Theory and Practice

(Continued from page 27)

ing the validity of an idea by putting it into practice. Here is a question I saw recently: "That works out fine in practice, but how does it check out in theory?"

Have you seen any literature from VECTOR Publications? The name "Vector" was derived from "Vocational Education Created to Outmode Recessions." How's that? The list I saw included a series of self-instruction guides for welding. The address is Roseville, Minnesota 55113.

Did you like the thumbnail summary statements at the beginning of the longer articles in the July issue? A few are included this time. If you would like for the summary to be continued, let me know.

Have you read the correspondence Bob Warmbrod has had with the Editor for the 4th Edition of the *Encyclopedia of Research*? We are including his letter in this issue so that you know about this interesting development and take whatever action you wish, if any. Thanks, Bob, for letting us know about this and for your efforts in behalf of our profession.

What is the FFA? When someone says FFA, what comes to mind? Is it a boy? A chapter? A program? An end? A way and means? A state program? A national program? A secret organization? Does the FFA help a member or does the member help the FFA, or both? Who "runs" the FFA? Is it a boy organization? Teen-age boys? College boys? Technical Institute boys? Adults? The FFA must be all of these things if I understand an article by the National FFA Adviser in a recent article, "May We Accomplish Our Purpose". Again, I believe that some of these questions need further clarification to give a better sense of direction.

Thanks for your communications, the brickbats as well as the roses. Either proves that you are still alive professionally and wanting to contribute to direction-finding. I believe that is our biggest job in Agricultural Education rather than listening to the guy who already has the answer to whatever question anyone might raise.

See you next month.

Cayce Scarborough

Guest Editorial

Opportunity Unlimited

H. M. HAMLIN

Center for Occupational Education
North Carolina State University

We in agricultural education seem to be sated with opportunity. Many of our leaders are wondering how we can possibly do all that the Vocational Education Act of 1963 implies we should do. We have other opportunities under the Manpower Act, the Higher Education Act, and the Economic Opportunity Act.

Because all of these opportunities have been staring us in the face, we may have overlooked those under the Elementary and Secondary School Act. A total authorization for 1965-66 under this Act is in excess of a billion dollars. The average allotment per state is about \$20 million; New York may receive almost \$92 million. The provision of the Act are broad, permitting us to do much in agricultural education that we cannot do legally with vocational education funds.

We have become so infatuated with the federal program for vocational education that we have almost lost sight of non-vocational education in agriculture. Much that we are doing with federal funds should properly be classified as general education rather than vocational education as the federal acts have always defined it.

Did Lincoln or Calhoun Prevail?

It is freely admitted that for almost fifty years one of the basic provisions of the Smith-Hughes Act has been ignored, particularly in the South. This Act and each succeeding act has stated that the funds available are to be used in providing education for particular occupations or clusters of occupations. However, in many schools all boys, regardless of their vocational intentions, have been admitted to classes in vocational agriculture.

This practice is straight from the nullification doctrine of John C. Calhoun that a state has no obligation to obey a federal law distasteful to it. It has not been confined to the South. An Illinois school board president once said that he would not tolerate vocational agriculture in his school system unless all students were eligible to enroll in it. This is no isolated northern example. Those responsible for the public schools have frequently failed to explain the requirements of the vocational education acts to their students and the public. Instead of asking for court tests to determine the legality of their activities or seeking amendments to these acts, they have disobeyed the Acts. And this has been happening in school systems allegedly dedicated primarily to preparing good citizens.

A Chance to Repent and Go Straight

There is a possibility, perhaps a strong possibility, that the provisions of the Vocational Education Act of 1963 will be enforced if the national evaluation of 1967 reveals widespread violations of it.

We do not want to change and should not change much that we are doing in high school vocational agriculture, but we may need to seek new sources of funds. Fortunately, the Elementary and Secondary Act of 1965 might provide needed funds. It might also provide funds to do much that we have never attempted.

The Act is a comprehensive one. Its provisions are flexible. Under it well-financed regional laboratories are being established which could do much of the research and development needed before new programs could be widely launched.

It is time to correct our sins of omission against the elementary schools and against non-vocational students enrolled in the high schools. There is more readiness for non-vocational programs than we have been acknowledging. Dr. Norman M. Chansky of North Carolina State University, has been directing a project in occupational education for elementary school pupils during the past year. He finds pupils highly interested and parents approving. Los Angeles has found non-vocational agriculture popular in its junior high schools. There are other examples of the acceptance of non-vocational education in agriculture.

Personnel Can be Recruited

Personnel for developing non-vocational education in agriculture is lacking. But money attracts personnel. There is enough money now to get the personnel needed for a program that will have to develop slowly, almost from scratch. Simultaneously, we should develop pilot programs for training teachers of agriculture for the elementary schools.

(Continued on Page 29)

News and Views
Of The Profession

Agricultural Education suffered a great loss in the death of Ralph C. S. Sutliff, 64, on May 22 at his home, 170 Adams Street, Delmar, New York.

Chief of the Bureau of Agricultural Education, New York State Education Department since his appointment in 1948, he served with distinction in this position. His passing culminated 40 years of continuous service to the State and Nation in Agricultural Education.

Mr. Sutliff served with distinction during his three year term as Vice-President of the Agricultural Section in AVA, 1961-64. He was a motivating force in the establishment of the Center for Research and Leadership Development in Vocational and Technical Education at Ohio State University, Columbus, Ohio. In his capacity as Vice-President he also played an important role in helping develop the policies and guiding the evolution of the Perkins Bill which became Public Law 88-210 the Vocational Education Act of 1963.

He is survived by his wife, Mary Williams Sutliff, three sons, Ralph C. of New York City, Lt. Larrie G. of the U.S. Army, and Roger L. of Delmar; two sisters, Mrs. Edgar Grant and Miss Grace K. Sutliff; three brothers, Clyde G., Howard G., and Virgil F., and six grandchildren.

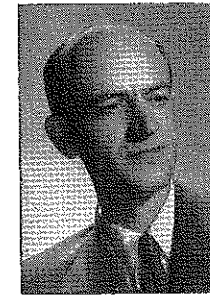
Krebs to Maryland

Dr. Alfred H. Krebs has been appointed Professor in the Department of Agricultural and Extension Education at the University of Maryland effective September 1, 1966.

Readers of *The Agricultural Education Magazine* will remember Dr. Krebs as editor from 1957-1961 and consulting editor from 1961-65.

A native of New York state with B.S., M.S., and Ph.D. degrees from Cornell University, Dr. Krebs joined the agricultural education staff at the University of Illinois in 1950 where he has served for the past 16 years.

At the University of Maryland, Dr. Krebs will teach undergraduate and graduate courses, direct thesis research, and conduct inservice teacher education. He will also hold a research appointment on the staff of the Experiment Station.



A. H. Krebs

Dr. Krebs is author of *For More Effective Teaching*, a well-known text on the problem solving approach to teaching agriculture, and several other books, articles and research publications.

Dr. Krebs has served as consultant to the Center for Vocational and Technical Education at Ohio State University, the Center for Occupational Education Research and Development at North Carolina State University, and the U.S. Office of Education.

He is currently president of the American Association of Teacher Educators in Agriculture.

Wood to Europe

The Illinois Board of Vocational Education has approved a grant of \$24,655 to Southern Illinois University for an educational research project by Eugene S. Wood, SIU associate professor of agricultural industries. Wood will make a study of post-high school terminal programs in vocational education, especially those in agriculture, at five Illinois junior colleges.

Wood started a three and a half months' sabbatical leave March 1 to conduct initial phases of the study. The Illinois junior colleges which have started terminal programs in agriculture under the Vocational Education Act of 1963 are Joliet Junior College, the Canton Community College, the Wabash Valley College of Mt. Carmel, the Danville Junior College, and Woodrow Wilson School of Chicago.

In addition to the studies in Illinois, Wood plans a six-weeks trip to Europe, beginning May 15, to visit institutions in 11 countries with vocational education programs.

Wood, a teacher-trainer in Southern's vocational agriculture education program, has been on the SIU faculty since 1949. Before transferring to the agricultural industries department faculty in the SIU School of Agriculture, he was a supervising vocational agriculture teacher in University School at SIU. He is a native of Illinois. He received his doctorate from the University of Missouri.

Opportunity Unlimited

(Continued from Page 28)

The elementary schools are no longer the financially undernourished institutions they once were. In general, salary schedules are the same for elementary schools and high schools. There is demand for more men to serve as teachers in elementary schools. Agriculture could supply some of them. There are unusual opportunities in these schools for male teachers to become administrators at attractive salaries.

Because 85 per cent of our population is in metropolitan areas and because those eligible for non-vocational agriculture outnumber many times those eligible for high school vocational agriculture, the enrollment in the non-vocational agriculture in the elementary and secondary schools could become far greater than that attainable in vocational agriculture.

The Bottlenecks

The principal obstacle to developing programs of non-vocational agriculture is provided by teachers, teacher educators, and supervisors with limited vision. Many of them are used to small operations of a traditional kind which they have become able to manage. A field as broad as that non-vocational education might occupy is terrifying.

Another impediment is the illusion that all agricultural education must result in cash benefits. Any kind of education including agricultural education ought to be evaluated in terms of its total contribution to individuals and society. We take pride in the side-effects of vocational agriculture evident in the fine boys we have helped to develop. Often these are more important than the vocational abilities the boys have acquired. Why couldn't we take pride in a program designed to secure what we regard as invaluable by-products of vocational agriculture? These would not be the only outcomes of non-vocational education in agriculture. Only study and experience will reveal the unique contributions we might make to those who now receive no agricultural education.

Organization of Multiple-Teacher Programs

J. C. HORTON, Vo Ag Teacher, Jasper, Alabama

Some of the findings of this study in Alabama differ from those in some other studies. In fact, opinions of those surveyed there differ, as indicated in the table. However, it was generally agreed that the role of the teacher differs markedly as he moves from a 1-man department to a multi-teacher situation.

A total of thirty-nine individuals were involved in a recent study of organization of multi-teacher departments in Alabama. Data were secured from questionnaires, interviews, and observations from supervisors, teacher educators, specialists, and teachers of vocational agriculture.

It was evident that relationship between teachers were good in all departments. Cooperation between teachers was in the most important factor in successful operation of their departments. All teachers remarked that decisions regarding the organization of departments were reached through conferences.

For the most part, multiple-teacher programs are similar to their vocational agriculture programs except two or more personalities are involved. This means that we must have a high degree of cooperation between teachers and careful planning to make each segment fit into a well-rounded education for all boys enrolled.

The interest of teachers in multi-teaching situations will likely increase considerably in the years ahead. Clearly the most desired teaching situations were classroom teaching and on-farm instructions. There was some indication that experienced teachers preferred classroom instruction. The majority of the beginning teachers favored the field laboratory method of instruction.

In the organization of the F.F.A. there should be two separate local chapters and the responsibility should be equally divided between the two divisions. Most of the teachers of vocational agriculture indicated that they would divide equally the responsibilities in organization of programs so that each teacher would have the same amount of work.

Specialization was suggested in several departments. One teacher taught all of the shop instructions, while in other departments instructors taught all the classroom courses. One department had suc-

cess in having teachers exchange for the purpose of teaching particular problems. Twenty teachers of vocational agriculture recommended exchange of classes occasionally.

Eleven departments offered a total of twenty adult farmer courses and six young farmer courses. One department had no adult program. The teaching of these adult courses was shared by teachers in twenty departments. One teacher conducted all the adult and young farmer work in the two teacher departments. In another case, one teacher organized all adult courses in the department and the other teacher advised the F. F. A.

Record keeping and reporting was shared by twenty teachers of vocational agriculture in two teacher departments. In one department one teacher was responsible for all reports. In the other department each teacher kept his own records and made his own reports.

(Continued on Page 31)



J. C. Horton

ORGANIZATION OF MULTIPLE-TEACHER PROGRAMS

Questions on methods	Directors		Super-visors		Admini-strators		Teacher-Educators		Vo-Ag-Teachers	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Teachers trained in different fields	2	0	3	4	2	1	3	2	6	16
One Teacher designated as head	2	0	3	4	2	1	3	2	9	13
More teaching experience for 1st teacher	1	1	0	7	0	3	0	5	4	18
Essential to have two classrooms	2	0	6	1	3	0	3	2	20	2
Second teacher charged with adults and young farmers	1	1	1	6	0	3	0	5	2	20
Demand for personal service as need for second teacher	0	2	2	5	3	0	1	4	5	17
Head teacher sends reports	1	1	2	5	1	2	0	5	2	20
Enrollment twice amount of one teacher visitat	2	0	1	6	2	1	0	5	4	18
Answers	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

J. C. Horton
(Continued from Page 30)

People

The results of a survey clearly indicated that the number of high school pupils enrolled in a department of vocational agriculture was the deciding factor in determining when a second teacher was needed.

1. All-day enrollment: The median number proposed was 85 with a suggested range 55-120.

2. Numbers of Adult Farmer and Young Farmer courses offered: A majority of the replies indicated that a total of three courses should be in progress with an enrollment of 30 to 120 adults.

3. Other factors considered included:

- a. Needs of local people
- b. Need for more participation in F.F.A.
- c. Teaching agricultural related occupations
- d. Opinion of agriculture teacher presently employed
- e. Opinion of advisory council

Six departments followed the same general policy that each teacher was responsible for supervising the experience program of his own students. Six of the teachers often visited students together, especially when the visits were often discussed in advance by the teacher to prevent duplication of visits to farms of brothers who were in different classes.

Facilities

There were separate classrooms in eight of eleven multiple-teacher departments. Two of these eight had their classrooms located in the main high school building. None of the eleven departments had two classrooms in the same agriculture building. One department with two teachers had to share its shop with an industrial arts group. All teachers interviewed said that there should be two separate classrooms and one large shop when there are two teachers in a department.

All departments had shop facilities that were accessible. All the teachers shared in the use of the shop. Several of the teachers in large high schools stated that two shops and two classrooms should be available if a successful program was to be carried out. Supervisors and superintendents stated that two shops and two classrooms would be added expense since the shop, in most cases, was not used except part of the time.

The building and its facilities do not necessarily determine the quality of instruction offered. However, most would agree that facilities should be adequate to permit the teachers to do an effective job in teaching.

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The Small Animal Laboratory

JOEL PYNCH,
Central Lynn High School,
Halsey, Oregon

Developing an inquiring mind and exploring basic scientific research methods are two important objectives of the vocational agricultural program. One way to reach these objectives is through a small animal laboratory. Several schools in Oregon have found such an addition to be a very live and exciting part of the curriculum, particularly where on-the-farm experiences are limited.

Sophomore agriculture students at Central Linn High School really began to understand animals and their nutrition when a local hatchery donated one-hundred leghorn cockrels and an eight-unit brooder. Supplies and ration mixing techniques were provided by a local feed company. The specific ration contents were furnished by the Oregon State University Poultry Department.

Pairs of student investigators began their work by selecting from one of the easily mixed rations which were deficient in Vitamins A, B₆, D, and K. Three other rations; corn only, wheat only, and the balanced controlled ration were made available. Each student pair mixed and properly labeled their rations.

The young researchers then weighed, sealed, numbered, photographed and de-beaked each bird. Research objectives,

and time schedules were established by the group. Each day the students would feed, water and clean their cages of birds. Daily notes were recorded on the birds physical condition, amounts of feed consumed, plus the weight and condition of the droppings. Each week a previously selected representative sample of five of the fifteen birds were scaled, weighed and recorded in a photograph.

The experiment began with two-day old birds and ended six weeks later. Student pairs then gave formal presentations of experiments to the class illustrating growth rate, feed consumption, pounds of grain, feed utilization, deficiency evidence, and from reading supplemented research findings to support and add to their experience.

A permanent photograph and diagrammatic record was then assembled for display at the all school vocational fair to emphasize the part in which research and demonstration plays in a vocational agriculture program.

Reports of similar activities from other schools in Oregon indicate that the small animal laboratory has a definite place in the vocational agricultural program.



This eight unit colony brooder located in one corner of the shop provided ample room for 100 birds to be used in various experiments by changing the dropping tray papers daily, the odor was minimal.

Employment Opportunities in Retail Fertilizer Distribution



Thomas R. Powell

THOMAS R. POWELL, Research Assistant, and CLARENCE E. BUNDY, Teacher Education, Iowa State University



Clarence E. Bundy

The fertilizer industry in Iowa has recently shown rapid expansion. In 1930, 10,015 farmers in Iowa reported the use of 21,177 tons of fertilizer. This grew to 98,562 farmers using 660,912 tons in 1959. Plant nutrient composition of each ton has risen as well. In 1963, 1,094,765 tons of fertilizer were sold in Iowa and sales are expected to reach 2 million tons in 1970.

The number of licensed Class II fertilizer firms in Iowa, who may mix regular grades or mix to customer's order, has risen from 104 in 1958 to 163 in 1961, 201 in 1962 and to 323 in 1964. Six agricultural chemical industry experts indicate a trend toward establishing one-stop farm supply service centers where all farm supply needs can be met.

If agricultural education is to train personnel in light of actual or anticipated opportunities for gainful employment as outlined by the Vocational Education Act of 1963, what are the employment opportunities in this rapidly expanding and changing industry?

The Survey

Firms retailing fertilizer in 25 selected counties in Iowa were surveyed with a mailed questionnaire concerning the number of full-time employees they employed in 1959, their present employment in 1964, and the number of anticipated employees in 1968 by job category plus management background information.

Future employees being trained must learn skills, abilities, and understandings in dealing with a broad range of agriculture commodities as shown by more than one-half of the firms handling grain, feed, and fertilizer with only 25.8 percent of the firms handling fertilizer alone.

Based on the 309 responding firms of the 339 firms, there were 6137 full-time male employees in 1959, 7286 in 1964, and 9632 anticipated for 1968 in firms retailing fertilizer in Iowa or 32.4 percent more full-time employees anticipated in 1968 than in 1964. (Table 1 next page)

With allowance for retirement and employee turnover, job opportunities of 3939 full-time male employees were shown from 1964 to 1968. A need for 654 fertilizer salesmen, 905 other unspecified employees, 562 servicemen, 328 clerical workers, 261 feed salesmen, 229 assistant managers, 177 heads of fertilizer departments, 157 feed mill men, 151 heads of feed departments, 115 managers, and 105 elevator men from 1964 to 1968 was shown. There were 3290 total part-time employees in 1963.

Promotion Ladder

The route to managership tended to pass through the job categories of service or clerical personnel moving to sales positions or becoming heads of fertilizer or feed departments, then to assistant manager or manager positions. Thirty percent of the managers had some college training and they averaged only 2.0 specific jobs before becoming managers compared to 3.1 for those with 12 years of schooling.

Training Needed

Present and future expanded programs of vocational agriculture in high school may serve to prepare future employees for service, clerical, and unspecified other job categories where 2090 job opportunities were anticipated from 1964 to 1968 or 522 per year or about two employees per present vocational agriculture department in Iowa. With additional experience and training some of these employees then might move through sales jobs to managerships. Vocational agriculture departments in the high schools might also cooperate with area post high school technical training centers in updating and training present employees of the retail fertilizer distribution industry in Iowa.

Area post high school centers or special technical training courses appear to be necessary for updating present employees and preparing people for sales or department managership jobs which would lead to business managership job categories. An anticipated job opportunity of 1505 future employees from 1964 to 1968 was shown for these job categories.

College training could be used to prepare future managers, assistant managers, and sales personnel in retail fertilizer distribution. An anticipated need for 1259 future employees from 1964 to 1968 was shown in these job categories. Colleges may also assist in updating present managers and other employees in short courses at the college centers or in cooperation with area post high school centers.

The Situation

There were 3.8 full time male employees per firm in 1959, 4.4 per firm in 1964, and 6.1 anticipated for 1968. Mean employee age was 35.6 years compared to 42.8 years for managers. Servicemen and unspecified other job categories tended to have more men in the younger age brackets than other categories. Number of employees in sales and unspecified other categories decreased after age 35, but increased from age 41 to 50, and then decreased again.

No significant correlation was shown between number of fulltime employees and manager's age or experience in the business. Older and more experienced managers did tend to have more commodity areas in their business.

Managers with more farm experience after age 12 tended to hold fewer positions before becoming managers. Managers who had fathers with more experience in the business tended to hold more positions before becoming managers than those with fathers with less experience.

Twenty-eight percent of the managers had some vocational agriculture high school experience with younger managers tending to have more vocational agriculture background and more years of schooling. Managers with more vocational agriculture training tended to have more full-time employees.

The information secured should help administrators of agricultural education in planning future programs where employment opportunities exist.

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An employee of a bulk blending retail distribution fertilizer plant. Such firms in Iowa will need 562 new or replacement service men during the 1964-68 period.

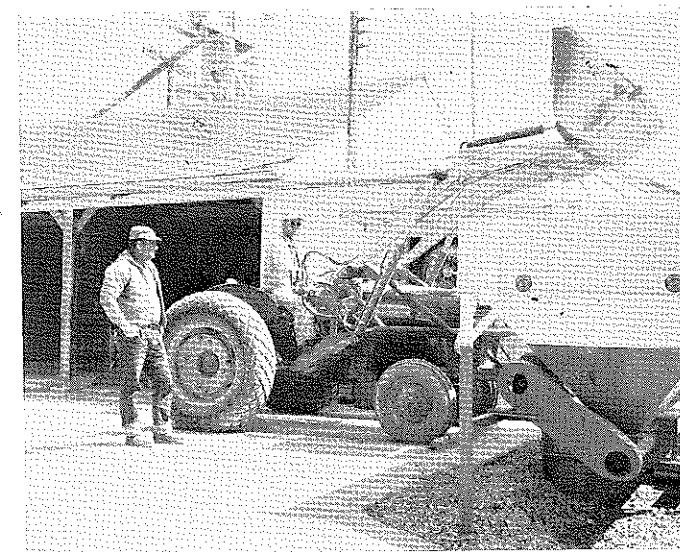


TABLE 1. Iowa retail fertilizer manpower personnel by job category and year

Job Category	MALE EMPLOYEES						Job Opportunities 64-68 ^a
	Full Time 1959 ^a	Full Time 1964 ^b	Anticipated Full Time 1968 ^c	Actual Change 59-64	Anticipated Change 64-68	Total Change 59-68	
Managers	1308	1356	1352	48	-4	44	115
Assistant Managers	630	775	802	145	127	272	229
Head of Feed Department	210	219	342	9	123	132	151
Head of Fertilizer Department	276	337	474	61	137	198	177
Elevator Man	276	403	438	127	35	162	105
Feed Mill Man	442	561	618	119	57	176	157
Fertilizer Salesman	333	510	1048	177	538	715	654
Feed Salesman	224	391	566	167	175	342	261
Clerical Worker	312	272	526	-40	254	214	328
Service Man	442	714	1038	272	324	596	562
Other C, F, F, Employees	1060	1091	1638	31	547	578	905
Non-C, F, F, Employees	624	657	790	33	133	166	295
Total	6137	7286	9632	1149	2346	3495	3939

^a Calculated from 297 firms reporting employees in 25 counties in 1959.

^b Calculated from 309 responding firms from 339 firms in 25 counties in 1964.

^c Calculated from 308 firms anticipating employees in 1968 from 339 firms in 25 counties in 1964.

^d Based on calculated needs from 1964-68 plus one-half of employees over age 60 in 1964 plus estimated 4.85 percent of employees leaving industry per year.

Competencies Needed In Agricultural-Supply Business

A basis for program development

HAROLD BINKLEY,
Teacher Education,
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A number of studies have been conducted to identify the hundreds of off-farm agricultural occupations. Some work has been done to determine occupational competencies needed or competency levels for various occupations. This particular study deals with competencies required for successful employment in agricultural-supply businesses.

A basic list of 250 competencies needed were developed in six areas by interviewing managers and assistant managers in agricultural-supply businesses. The six areas and number of competencies in each were as follows:

Competency Area	Number of Competencies
Feeds	49
Seeds	38
Fertilizers	49
Agricultural Chemicals	48
Business	41
General	25

Sixty-five agricultural-supply businesses were surveyed in Kentucky. Each supervisor and teacher educator on the joint-staff in agricultural education assisted with the survey. The survey had good state-wide coverage—each teacher educator surveyed in a different supervisory district coordinating his work with the supervisor of the district. The survey included each kind of employee in the business. However, this report includes only the positions of managers, assistant managers, field or farm representatives, sales and service personnel, clerks, cashiers, and foremen.

The sixty-five businesses employed 90 individuals whose jobs required competencies in the areas studied: 49 individuals needed competencies in feeds; 73 needed competencies in seeds; 70 needed competencies in fertilizers; 73 needed competencies in agricultural chemicals; 89 needed business competencies; and all 90 needed certain general competencies.

Manager and assistant manager opinions were secured on each employee whose job required competencies in feeds, seeds, fertilizers and/or agricultural chemicals and business and general competencies. Each competency was rated

“very helpful,” “helpful” or “of little value”. There follows a listing of the competencies that were rated “very helpful” for 75 percent or more of the employees in the agricultural-supply business.

Competencies Needed in Feeds

Understanding of:

- The importance of good feeding practices
- The nutrient needs of farm animals
- How feeding affects the body functions of animals
- How farm animals use their feed
- The pace of pasture in feeding livestock
- Feed brands and kinds of feed for different kinds and ages of livestock
- The different kinds of feed tags and what they mean

Knowledge of:

- How to feed grain properly to different kinds of livestock
- How to use protein supplements to the best advantage in feeding different kinds of livestock
- How to provide the minerals necessary in feeding livestock
- Vitamins and feed additives for different kinds of livestock
- The better methods of feeding the various kinds of farm animals
- Feed formulation—balancing rations
- Animal nutrition, health, and sanitation
- Local feeding practices and methods used
- Firm's sanitation products and feeding programs

Ability to:

- Analyze a farmer's credit potential and when to extend credit
- Select the items to fit the farmer's operation, feed, or sanitation needs
- Make on-farm contacts to sell feed
- Distinguish between good and low quality feed grains
- Show honest concern over customer's not following proper feeding programs
- Recognize potentially good customers
- Adjust formulations to individual animal nutritional requirements
- Accurately compute formulations (balance) for custom mixing with various size lots of grain delivered for processing
- Use farm weights and scales accurately

Competencies Needed in Seeds

Understanding of:

- What is involved in producing high-quality seed
- Advantages of using certified seed



Harold R. Binkley

- What certified seed is
- What is considered germination (percent) for common crop and vegetable seeds
- Importance of seeds being relatively free of weeds
- Value of using good seed
- Importance of inoculating legume seeds
- The official labels (tags) on seeds

Knowledge of:

- Adapted varieties of seed for common crops grown in the area
- Weight per bushel of the seeds sold
- Information shown on a seed tag and importance of same
- Minimum standards (pure seed-germination)
- Pure seed tolerances for purity, germination, and noxious-weed seeds
- Chemicals used to control weeds and diseases

Ability to:

- Distinguish between good and low quality seed and show the farmer the difference
- Take two different sacks of seed and on basis of price, purity, and germination, determine which is the best buy
- Show an honest concern over customers not using good seed and not following good seeding practices
- Recognize potentially good customers
- Use farm weights and scales accurately

Competencies Needed in Fertilizers

Understanding of:

- The importance of fertilizers in modern farming
- The trends of fertilizers used in Kentucky
- Sources of information on fertilizers and how to use them. Example: U of K's chart on kind and amount of fertilizer to use on various crops
- Mixed & straight fertilizers

Knowledge of:

- Advantages of using high-quality fertilizers over low quality

Ability to:

- Make suggestions acceptable to the farmer for improving his use of fertilizers
- Communicate with farmers regardless of their education or experience in using fertilizers
- Analyze a farmer's credit potential and when to extend credit
- Show a farmer what is involved in “fixed cost” and what increased fertilizer (a variable cost) will mean in additional yields and profit
- Show honest concern over customers not following good fertilizer practices
- Recognize potentially good customers

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Harold Binkley

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Competencies Needed in Agricultural Chemicals

Understanding of:

- The insecticides, fungicides, herbicides that are dangerous to handle or breathe
- The importance of following the safety precautions on the label
- The four keys to agricultural chemical safety—reading the label, storing materials, applying, and disposing of empty containers
- The importance of following the manufacturer's instructions for mixing and applying

Knowledge of:

- What makes for a good pest control program—timeliness, thoroughness, good equipment, and proper materials
- The general principles for use of herbicides
- Controlling insects in tobacco fields
- Controlling insects in tobacco beds
- Controlling insects on beef and non-lactating dairy animals
- Controlling insects on lactating dairy cows
- Controlling weeds in various field crops
- Controlling parasites and diseases in dairy cattle
- Controlling parasites and diseases in beef cattle
- Controlling parasites and diseases in hogs

Ability to:

- Communicate with farmers regardless of their education on use of agricultural chemicals
- Help a farmer select the agricultural chemicals to meet his particular needs
- Interpret safety instruction on the container
- Interpret the directions on the container

Business Competencies

Understanding of:

- A business operation
- The importance of meeting the customer
- The importance of meeting the public

Knowledge of:

- The principles of salesmanship
- How to meet the establish customer relations
- Suggestive selling
- How to overcome sales obstacles
- The products sold by the business
- How the use of the products will save or make the customer money

Ability to:

- Meet the public
- Sell a customer what he needs, not just sell
- Not pose as an expert when he is not sure, but to ask one who does know
- Serve farm people—genuine desire
- Like people, not to have a fear of people
- Sell
- Use good telephone procedure
- Fill orders
- Deliver supplies without errors
- Make basic mathematical calculations accurately
- Write and make legible figures
- Write sales slips
- Be thoughtful—not forgetful

General Competencies

Even though the general competencies are not agricultural in nature, they were felt to have a definite bearing on one's successful employment in an agricultural-supply business. All competencies listed here were rated by 85 percent or more of the employers as being “very helpful” to their employees in the successful operation of the businesses.

Ability to:

- Accept and carry out responsibilities
- Maintain a good personal appearance
- Have a good attitude toward:
 - a. Customers
 - b. Fellow workers
 - c. Supervisors
- Be honest
- Have initiative
- Have enthusiasm
- Be prompt in reporting for work
- Have foresight and plan ahead
- Be attentive at work
- Be accurate in work
- Care for work space or area (keep neat, straight, and orderly)
- Care for materials, tools, and equipment
- Make effective use of working time
- Develop speed and accuracy in work
- Follow instructions
- Direct and supervise others
- Be cheerful
- Make basic mathematic calculations accurately
- Write legibly and make distinct figures
- Be careful with property on farms, fields-gates-equipment
- Practice safety
- Drive a car—truck safely

Summary

Of the 250 competencies surveyed, in the six areas 114 or 46 percent were rated by 75 percent or more of the manager or assistant manager interviews as being “very helpful” for their employees.

The competencies listed have implications for course building in departments where teachers are planning specialized training for students in agricultural-supply businesses. In developing such a program the class instruction should be geared to the competencies needed for successful employment in agricultural-supply businesses and the opportunity for supervised occupational experience to develop these competencies.

Note

Teachers desiring a copy of a Course of Study developed from this study should make request to Department of Agricultural Education, College of Education, University of Kentucky, Lexington, Kentucky.



Small group instruction in Colorado high schools was found to be an effective teaching technique.
Photo by Cross

J. C. Horton

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Effectiveness

In the case of two or more vocational teachers in a department of vocational agriculture, a more effective job of public relations can be done. Teachers in multiple-teacher departments have repeatedly reported they were able to promote a greater number of special activities of F.F.A. in the total vocational agriculture program.

The theory that two men are twice as effective as one was sometimes questioned. Determining efficiency of multiple-teacher departments seems to indicate a study of how the program is planned and what utilization is made of each instructor's time.

Multiple-teacher departments of vocational agriculture can be an important field of research and much of the future of vocational agriculture depends upon how well teachers, supervisors, and principals are able to develop and operate larger departments.

All in all, two or more teachers in a department make an all around total vocational program in agriculture and make it possible to have a more successful program. Then too, multiple programs offer more challenges to students as well as teach students how to cooperate in a complex society.

The role of the agriculture teacher changes as teacher moves from one-teacher department to a two-teacher department. Teachers experience a greater degree of specialization than do teachers in single-teacher departments. New problems in organization exist in multiple-teacher departments and those problems can be solved by working together in a cooperative manner. The degree of effectiveness depends largely upon the extent of planning for multiple-teacher programs.

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FFA Chapters Help With School Safety

VAN H. BURNS, Vo Ag Teacher,
Saline, Louisiana



Van H. Burns

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School fires endanger the lives of students, disrupt school programs and cause heavy property losses each year. Even with our ultra-modern school structures, fire hazards can be found in many buildings. Assigned responsibility, if carried through, can do much to eliminate these conditions and make our school buildings safer. These and other situations afford F.F.A. chapter members an excellent opportunity to help make their schools safer through organized group activities.

Organization

F.F.A. chapter members meet with high school principal and other school officials and discuss school safety. Get approval of principal and other school officials for the F. F. A. chapter to carry out safety activities at school. At the next regular F. F. A. meeting start making plans for your school safety program. The chapter members select a fire warden and three assistant wardens. The president appoints the following committees; Fire hazards, Fire extinguishing equipment, Fire drill, Traffic safety and Playground equipment. There are several other committees that might be needed, depending on your local situation. These activities and committees, of course, must meet with approval of principal or person in

charge of operation of the school.

Fire Hazards Committee

Fire hazards can be found in many of our buildings. If these hazards are not detected and corrected they may cause serious accidents and great losses of school property. The committee in charge of fire hazards must be schooled in the ability to recognize fire hazards, have some knowledge as to how they can be eliminated and be prompt in reporting them to the proper authorities. The representative of the State Fire Marshal's Office will be glad to discuss all phases of school safety with the F.F.A. members. He can provide literature and suggest other publications which will prove very helpful in fire hazards detection and elimination. This committee makes regular inspections of all school buildings, a minimum of one check per month, and make report to proper school authorities as to their findings.

Extinguishing Equipment Committee

Schools are required to equip buildings with certain fire extinguishing facilities. This F.F.A. committee is responsible for checking all existing extinguishing equipment.

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Members re-fill Soda-Acid extinguishers annually.

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Hand fire extinguishers must be the proper types and number in accordance with applicable standards, bear the label of Underwriters Laboratories, and be properly distributed through the buildings. Foam and Soda-Acid type extinguishers are checked regularly and re-filled annually. Carbon dioxide extinguishers are weighed regularly and sent in for re-filling when weight is not what it is supposed to be. All extinguishers are tagged and signed by committee as to latest inspection date. All extinguishers are cared for and used according to manufacturer's instructions.

Standpipe and hose systems are provided for fire extinguishment in some school buildings. One of the best means of providing safety in school buildings is by properly installed and maintained system of automatic sprinklers. Our school is not equipped with either of these fire extinguishment facilities.

Fire Drill Committee

The fire warden and assistant wardens have charge of all school fire drills. Drills are conducted at least once per month and at different periods during the school day. All F.F.A. members participate in the drills and have definite duties to perform. Some of the duties carried out by members during the drills are as follows:

ROOMS—

All rooms are checked to see that all students are out and then windows are pulled down and doors closed.

DOORS—

All outside and inside doors are closed after building has been emptied of students.

FIRE EXTINGUISHING FACILITIES—

All extinguishing equipment is assigned to F.F.A. members and they are responsible for the use of it during fire drills. They are required to have equipment in good working order and ready for use in case of a fire.

FIRE ALARMS—

The warden and his assistants are responsible for turning in all practice alarms. All students are familiar with the alarm system and know how to turn in alarm in case of fire. Surprise alarms are given at various times during the year, being made without the knowledge of wardens or drill team members. Wardens time each drill to determine efficiency in evacuating the buildings. At the end of each drill the alarm system is put back in proper working order. A signal is given by warden to let students know when to return to the buildings and their return is supervised by drill team members. Members meet after all practice drills and have a general discussion on how the drill was conducted and suggest improvements. These suggestions are then passed on to the teachers and student body.



Members become familiar with main electrical switches.

GAS MAIN CUTOFF AND MAIN ELECTRICAL SWITCH—

A team member is assigned to each of these cutoffs and is ready to turn them off during all drills.

Traffic Safety Committee

Traffic on or near the school campus is controlled by this committee. Items of special interest to this committee include; Loading and unloading of school busses, parking on or near school campus for all school activities, student vehicle regulations, right of pedestrians and rules concerning bicycles.

Playground Safety Committee

Defective play equipment is dangerous and may cause serious injuries to students. The playground safety committee has the responsibility of checking play and recreational equipment regularly and repairing damaged or defective items. Damaged equipment that can not be repaired by the committee is reported and taken out of use until it can be properly repaired.

Summary

F.F.A. Chapters can help with school safety and there are many different safety activities that can be carried out. The programs should be carefully planned and responsibilities definitely fixed. Provide opportunities for all F.F.A. members to participate in the safety practices.



F.F.A. members check playground equipment.

The primary purposes of such programs are to eliminate fire and other school hazards and to reduce school accidents and property losses. As a result of these programs, F.F.A. members get actual experiences in safety practices, develop a sense of pride in having a safer school and learn to work and cooperate with other students and school officials.

A Good Curriculum Becomes Obsolete

EARL M. PRICE, Supervision, North Carolina



Earl M. Price

Occupational Education

Vocational agriculture education in the public schools has been challenged in some areas as a program no longer needed because it does not meet the needs of the people involved and because it is based on a need to train farmers who are no longer needed in numbers which will justify the program. Although this type of challenge gives additional impetus to the need for re-evaluation of the vocational agriculture program, it also serves as a commendation for the program as it has been developed in the past. Only a poor curriculum never becomes obsolete. When a curriculum does become obsolete, perhaps it has served its purpose and should be discontinued. Few people question the conclusion that we will need the number of full-time production farm operators tomorrow which have been needed in past years. In 1965 there were only one-half as many farmers as we had fifteen years ago, and the numbers grow smaller each year. Neither is there reasonable doubt that those who remain in and those who enter farming in the future will require even better training than in the past.

A man who earned college degrees in chemistry, biology, and mathematics about twenty years ago was recently heard to remark that "my education didn't stick." As far as anyone knew twenty years ago the curriculum which he pursued was entirely adequate. However, there is little demand for the knowledge he acquired or the skills developed.

A Paradox

It becomes clear that those who have responsibility in curriculum planning for vocational agriculture must be cognizant of a paradox. The program of studies should be designed to meet the requirements of those earning their livelihoods in the vast complex of agriculture. At the same time the attainment of objectives cause the curriculum to become obsolete, thus requiring continuing evaluation and replanning.

Many people are willing to predict the needs of the future farmer. Some have said that the efficient production farmer of tomorrow will spend more time at his desk than on his tractor. He will be able to display evidences of training exceeding the average professional man in other fields of employment. It is unlikely that vocational agriculture in the high school

curriculum will be expected to provide all this specialty training. However, it is feasible that vocational agriculture can help the future agriculturist make a wise vocational choice. It is also feasible that vocational agriculture is effective in providing an education which will "stick." The same man who said that his college training had become obsolete also said that he now wished he had been given some training in the use of tools so that he might enjoy, instead of fear, the power equipment which he had purchased for his leisure time use. As the amount of leisure time increases, as more people buy homes, and as more people develop an interest in landscaping their home grounds, the clientele for agricultural education increases, particularly in ornamental horticulture. This is education which vocational agriculture can now provide, and which will "stick."

Broader Objectives

The Vocational Act of 1963 not only broadens the objectives of vo-ag and the people served but it now gives legal permission to provide education in the broad complex of agriculturally related occupations. The best census figures available indicated that over forty per cent of all the gainfully employed persons in the United States are working in an occupation which must be termed "ag-related." In some states the percentages are higher and in many localities over one-half the population could use agricultural education profitably in improving their performance on the job. This percentage is in addition to the people who will find employment in jobs not related to agriculture but who would desire education in gardening, landscaping, and other phases of agriculture. These are important facets of living in a society where more and more people are finding that they have almost as much time to devote to jobs of their own choosing as they devote to the job of earning a living. The purposes of the Vocational Act of 1963 permits flexibility of curriculum development. Within this viewpoint many states are redesigning offerings in vocational agriculture education. Some suggest that the first year course should give the student an opportunity to investigate the world of work in agriculture, including not only modern farming but also the many occupational opportunities in other areas of agriculture.

Specialization

The most significant characteristic of a modern vo-ag curriculum is the option type electives provided in a pattern of courses. As has been previously indicated the future needs will demand specialization. The vo-ag curriculum, instead of offering a wide variety of production practices and skills, will offer particular courses in agricultural chemicals, ornamental horticulture, forestry, and the like, each planned to provide knowledge and skills for a cluster of agricultural occupations. Perhaps no one is more aware than the teacher of agriculture that these courses will not provide permanent education for these areas of employment. Although they are able to meet the present employment needs they too will soon become obsolete. This is no fault of the curriculum offered in vocational agriculture but emphasizes the challenge for the development of appropriate continuing agricultural education for those who desire to obtain competency in any of the broad areas of agricultural science and agricultural leadership.

Factors Related to the Enrollment of High-School Boys in Vocational Agriculture

HERBERT H. BRUCE

A study "Factors Related to the Enrollment of High School Boys in Vocational Agriculture" made in Kentucky in 1965 revealed some interesting information.

Although the vocational agricultural enrollment in Kentucky has been increasing each year, the study revealed that some boys who had an opportunity for supervised practice were not enrolling. The study also revealed some boys who did not have an opportunity for supervised practice were enrolling. (Supervised practice in this study was used to designate the practice in farming carried out under the supervision of the teacher of agriculture.)

The study attempted to determine: (1) What caused boys to enroll in vocational agriculture who did not have an opportunity for supervised practice? and (2) What caused other boys who had an opportunity for supervised practice not to enroll?

Boys, teachers of agriculture, and guidance counselors in 45 schools, five from each of the nine supervisory districts, were surveyed. There were 4,744 freshman and junior boys surveyed. These boys were grouped on the basis of their opportunity for supervised practice. They were then asked why they did or did not enroll. Teachers of agriculture were asked why they thought these boys did or did not enroll.

The 45 schools in the study were ranked on the basis of the percent of boys enrolled in vocational agriculture who had an opportunity for supervised practice. Teachers and guidance counselors from the top nine schools having the highest percentage of boys enrolled in vo-ag who had an opportunity for supervised practice were interviewed to determine the practices used in enrolling boys. The same was done for the bottom nine schools.

Thirty-six percent of the boys surveyed were enrolled in agriculture. Of the boys enrolled in agriculture, 89 percent lived on 10 acres or more land.

Twenty-seven percent of the boys who did not enroll in agriculture had an op-

portunity for supervised practice. Twelve percent of the boys not enrolled were interested in being placed on a good farm for experience in farming. Of all the boys surveyed 44 percent expressed interest in training in an off-farm agricultural occupation.

The size of schools that the boys attended, whether they lived or worked on a farm, the size of farms, crops grown,

livestock produced, machinery available, farming status of the father, and the occupation of the father had an influence on boys enrolling in agriculture.

Findings

Teachers of agriculture and others involved in counseling should realize the need for supervised practice in vocational agriculture. They should also understand why boys who had an opportunity for supervised practice did not enroll in agriculture and why boys who did not have an opportunity for supervised practice enrolled.

Certain practices were followed by more teachers and guidance counselors in the schools which were most successful in enrolling boys in agriculture who had an opportunity for supervised practice. These practices seemed to cause a higher percentage to enroll.

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Vocational Agriculture Enrollment in Kentucky, by Years

Years	Enrollment			Total
	High School	Young Farmers	Adult Farmers	
1918.....	131	131
1928.....	3,059	3,059
1938.....	5,881	1,049	2,243	9,173
1948.....	8,123	2,340	2,764	13,227
1958.....	12,407	1,776	3,777	17,960
1964.....	14,250	2,237	4,405	20,892

Factors Which Influenced Boys to Enroll in Vocational Agriculture

Factors	Vocational Agriculture Boys Enrolled In	
	Number	Percent
Size of school boys attended (250-264 students).....	1,124	68
Lived or worked on farms.....	1,501	89
Characteristics of farms where boys lived or worked		
Size of farms (10-249 acres).....	1,333	79
Cash crop grown on the farms.....	1,301	77
Feed crops grown on the farms.....	1,344	79
Livestock on the farms.....	1,311	78
Adequate machinery available.....	1,301	77
Farming status of father (owner-operator).....	1,036	62
Major part of father's income from farming.....	888	53

Guidance Counselor—Friend or Foe

W. J. CRUCE, Guidance Counselor, Reidland High School, Paducah, Kentucky

Herbert H. Bruce

(Continued from Page 42)

1. Boys who were interested in agriculture and could arrange for supervised practice were encourage to enroll.

2. Beginning students and their parents were visited and the program of vocational agriculture was explained to them.

3. The counselor, principal, teacher of agriculture, other teachers, and parents were involved in counseling boys.

4. Information was secured on prospective students.

5. The schools' policies were more lenient in enrolling freshmen than juniors.

6. The final decision on enrolling boys was made by the teacher of agriculture.

7. Counselors helped principals work out the class schedules.

8. The vocational agriculture program was publicized.

9. Key people were used to contact prospective boys.

10. The potential ability of boys to benefit from vocational agriculture was determined.

11. Boys interested in vocational agriculture who could arrange for a farming program, even though their fathers were not farming, were enrolled.

12. The teachers of agriculture were optimistic about the future of agriculture.

13. More curriculums were available, in the most-successful schools, for students to choose.

Recommendations

1. Only boys who can profit from the training, should enroll in agriculture.

2. Boys and parents should be visited before boys enroll in agriculture.

3. Boys should make plans for supervised practice before they enroll.

4. Teachers of agriculture should work with the counselor, principal, and other teachers in enrolling boys in agriculture.

5. Teachers of agriculture should use key people to help contact and encourage rural boys who want to enroll and have an opportunity for supervised practice to enroll in agriculture.

6. The public should be informed about the program of vocational agriculture.

Is the guidance counselor a foe of the vocational agriculture department? Speaking for one counselor—emphatically NO!

Why is it that many vocational agriculture teachers feel that the answer to the question is yes? And in some cases may be true. If it is true, who is to blame?

First, if this condition exists, it may be due to a lack of his understanding of vocational agriculture. Does he understand your program? If not, why not? It

7. Boys should understand that vocational agriculture will help them learn to farm.

8. Boys should know that students who study agriculture in high school do as well in college as those who do not study agriculture.

9. Teachers of agriculture should help the principal work out a class schedule that will prevent serious conflicts for boys taking agriculture.

10. Teachers should be more lenient in enrolling freshman boys than junior boys in agriculture.

11. Boys interested in agriculture who do not live on farms should be placed on good farms to get farm experience.

12. Boys interested in training in off-farm agricultural occupations should have an opportunity to take agriculture.

13. Boys interested in agriculture should enroll all four years in high school.

is not unnatural for most guidance counselors to be more familiar with the general academic program of the school than with the vocational programs. It is quite possible he has never had any vocational training so he knows nothing about it from personal experience. How then can he come to know the program of vocational agriculture in the school? It seems that there is a dual responsibility for the vocational agriculture teacher and guidance counselor to sit down and talk it over so that there will be a clear understanding on the part of the guidance counselor of the program. And on the part of the vocational teacher as to what boys should be enrolled in vocational agriculture.

Second, how sold are you on your program? Is it good? Then explain it to others. Be sure the students in your school understand your program and what they may expect to gain by enrolling in it.

If you have something worth advertising, advertise it. Perhaps a number of good prospective students—right under your nose—don't know what goes on in your department. Don't fail to let them know.

Third, maybe in some cases there is a lack of cooperation. If so, who is to blame? Have you approached your guidance counselor on your program? He has a responsibility not only to you but the whole school to assist in any way possible. Guidance counselors in some instances have been accused of having inferior students enroll in vocational agriculture. Perhaps this might be true in some cases, but this point look at the responsibility of the guidance counselor in regard to any decision the student will make. The counselor supplies the information, discusses it with the student, and arranges for any conferences the student would like to have. But, the decision is made by the student. He has to live with it, so he should make it.

If vocational agriculture is not making progress as it should, in your school, take a good look at your program. Analyze and criticize it and modify it to make it what it should be.

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AUGUST 1-5, 1966

National Seminary
Cooperative Education
Center for Vocational
and Technical Education

Ohio State University

(Continued from Page 43)

Cooperation at Reidland

While the relationship of the counselor and the department of agriculture at your school is as good or better than at Reidland High School, here is a description of our experience: At Reidland, there is close cooperation between the teachers of agriculture and the counselor. The teacher keeps the counselor informed about the program and what they are trying to accomplish. The counselor passes on materials pertinent to the program to the teachers. By frequent talks, each understands what the others are trying to accomplish and they work together to determine the best possible ways of doing things.

If a student shows an interest in a certain area and has an aptitude in that area, then he is encouraged to pursue studies in that area. This applies to agriculture as well as to all other areas of study. By use of tests, talks with the students, visits to the places where the students work, talks with employers, and consultation with teachers, the counselor is better able to aid in the selection of students for the program in vocational agriculture. While IQ is always a factor, qualities other than IQ are incorporated in any selection. Other qualities considered are: attitude, needs, aptitude and vocational plans of the students.

Enrollment Increasing

The enrollment in vocational agriculture at Reidland High School has increased from a small enrollment to over one hundred in the last two years. Last year in the agricultural occupations program, of the twelve students enrolled 3 were in the upper 10 percent of their class; 3 in the lower 10 percent; and the other 6 ranging in between. This year, all twelve students are in the lower 50 percent of their class. On this basis the class should not be working as well, but such is not the case. According to the teacher and employers, this is the best class in the three year period the agricultural occupations class has been in operation.

In conclusion, is the counselor friend or foe? Take a good look at your particular situation. If things are not right don't worry about who is to blame, but rather take the initiative to work together to improve the program of vocational agriculture, and to enroll the students that should be in the program.

Meeting Opposition to Change

J. C. ATHERTON

Teacher Education

Louisiana State University

Two neighboring school districts recently held local elections for an increase in the millage rate of taxation for the public schools. In one community the vote was favorable by an overwhelming majority whereas in the other community the issue was soundly rejected.

Even a cursory investigation would indicate the reason for neighbors reacting differently to school needs. It was simply a matter of public relations. They were positive in one instance and negative in the other. The favorable vote was the result of an informed public who had been involved in the issue from its inception to the final conclusion. Reasons, needs, and criticisms had all been given careful consideration and presented to the general public. On the other hand the adverse results from the election in the neighboring community were brought about through poor communication, a job of telling rather than selling and a complete disregard for questions and criticism raised by the general public.

Doing Means Opposition

As implementation of the educational program in off-farm agriculture moves forward there is the constant danger of arousing opposition within the school administration and faculty as well as over the school community. Something new which is not understood is frequently resisted and criticized by the lay public. No doubt there is an element of truth in the old proverb—What you are not up on, you are down on. The teacher in the development of the new program will want to keep the opposition within minimum proportions. This is not always an easy assignment.

Footnote by Clayton Riley, Director, Demonstration Center, Reidland High School.

I fully agree with Mr. Cruce's comments. It is our responsibility as teachers to inform other personnel in our schools about our programs. Mr. Cruce has met with my advisory council, visited training centers and talked with employers, and met with groups visiting the center. I credit the good working relationship we have to a good understanding of our program, its aims and objectives, and the job opportunities available in agriculture.

It seems that all leaders face some opposition. The teacher of vocational agriculture is no exception. A counter force of opposition seems to be a natural product of the exerting of leadership, especially when it includes the evolution of change in the school system. In fact, it is difficult for the teacher to do anything in a positive way without releasing opposition.

Criticism may be the result of the individual not wanting to rock the boat or face something new. A problem of the teacher is to make the individual aware of the need for the new program.

This resistance or opposition comes in many forms. Sometimes it is powerful, antagonistic and systematic. Then again it may come in simple statements which indicate a different opinion on the part of the individual. It may be open and above board or covert and indirect.

Teacher Reaction

Teachers as a rule fear opposition, especially strong persistent resistance. This situation does not happen instantly, but is brought about over a period of time as a result of inadequate dealing with the dissenter. Or it may come from neglect which leaves the opposition free to expand until it reaches serious proportions.

It may be that it is the reaction of the teacher to the opposition which make it so difficult to manage. The normal response of the teacher to the opposition may be one of several alternatives. These include fighting fire with fire, ignoring the views of others, attempting to clarify the matter with the administrator and public and determining if a common understanding can be achieved.

The fire fighting approach is one of attempting to overwhelm the opposition and thus to silence it or to render it ineffective. It may include ridiculing, belittling or castigating those who are not sympathetic toward the program of education in vocational agriculture and the instructor. This can lead to a direct confrontation with highly explosive results. In such a situation the teacher usually either wins the battle or is removed from the battlefield—the local teaching force.

(Continued, Page 47)

Personnel Needed in Ag Industry

ALAN H. LAMB, Secretary, New York Farm Machinery Dealers Association, Hamilton, New York

Here are views of personnel needs from "the others side", the employer in the ag industry field. Has implications for training programs in horticultural areas as well as farm equipment. Suggests some "personal needs of personnel" too.

Probably the most pressing problem facing the farm equipment, light industrial and lawn and garden industry today is the lack of competent personnel. I believe special programs for education must be instituted in order to train men for these jobs.

Up until quite recently, a mechanic in a farm machinery enterprise didn't need to be exceptionally proficient in order to "get by." When farm implements consisted of mainly soil breaking tools and tractors were simple four-cylinder, four-speed transmission models, anyone with any mechanical skill could do a creditable job of repairing them.

Specialization

The advent of the more specialized machinery, such as precision planters, self-propelled combines, fruit picking, vegetable picking, and root harvesting machines, balers, windrowers, hay conditioners, forage harvesters, and corn pickers, along with the more complicated tractors with automatic transmissions, high compression gas and diesel motors, extensive hydraulic systems and complex P. T. O. systems brought about the demand for better educated more specialized mechanics.

Parts men and salesmen have also been affected, since the amount of education needed for them to do the job right has risen tremendously.

In an increasing number of dealerships, especially the larger ones, mechanics are becoming more specialized. Certain mechanics may work on transmissions and hydraulics, for instance, and only occasionally work at some other part of the business. Specialized motor mechanics may never work on any other jobs.

We are, I believe, coming to the time when mechanics will be almost all specialized in one certain field. Certainly, this will take some time yet, but as the dealerships grow in size and stature, and this is inevitable, the shape of "things to come" will change with this growth.

Problem of Pay

Up until recently, due to a number of reasons, many of our dealers have been reluctant to pay the "going labor rate"

to their employees. I believe this has been changing recently and will continue to change in the future. As our farms become fewer and larger, they will be managed by better educated farmers who will know the need for good service to their machines. They will be willing and able to pay for top-notch service. In fact, this situation does exist in some respect today.

One of the problems which has up until now faced our dealers with trying to hire personnel with associate or higher degrees has been the fact that the supply companies could, and in fact have hired these people at higher wages than the dealer felt he could afford to pay. As I have stated earlier, I believe this picture is beginning to change. Certainly our larger companies need highly-trained, efficient personnel. They do, however, also need highly-efficient, successful dealerships if they themselves are going to be prosperous.

There is no question but what the problem of low pay is now plaguing our dealerships and will continue to do so in the future. I do believe, however, that an institution such as Cobleskill, for instance, cannot in the least afford to compromise its position by trying to educate personnel in a less competent manner just to meet the farm equipment dealer's problems. If it is possible to come up with a program which would educate these people in a more specialized way, geared to farm equipment dealers' needs, then I would say this might be commendable.

Opportunity Ahead

There are golden opportunities awaiting many young men who wish to make a dealership their business. The average age of our dealers throughout the state is quite high. Many of these owners are desperately looking for a capable, young man who would work with them with the idea of an orderly way of passing the business from the present owner over to the young man at some future date. It is usually best for everyone if dealerships can change hands in this or some comparable manner. There are tremendous needs for salesmen, parts men

and shop foremen. These positions are usually above average paying jobs. In fact, some of these positions are far above average in salary and fringe benefits.

As dealerships become larger, they inevitably become better equipped and more enjoyable as a place in which to work. Mechanics will, I believe, have fewer occasions in which to talk with the customer. This will be done either by the parts man or shop foreman. Probably more flat rate work will be done, thus once again illustrating the need for extreme proficiency in specialized fields.

Dealers are becoming so aware of the shortage of good personnel that they will put up with more shortcomings while breaking these young people into their business, especially if they think the finished product will be a person who can and will do them a creditable job.

Need for instilling loyalty towards his employer in an employee is very critical. Neatness, orderliness, cleanliness, promptness, pleasing personality, loyalty, and efficiency are all qualities which very definitely need to be stressed in any educational program of this type. Certainly a person can be highly trained in mechanics but still be almost a detriment to his employer if he lacks the aforementioned qualities.

A real important matter to bear in mind is that our major companies are in a position to take these young people who are hired by their dealers and give them the specialized training needed to acquaint them with the individual company needs.

Summary

I would say that we need to establish curriculums which would guide young people into the more specialized areas of mechanics. Certainly these people need to be proficient in the "three R's," so to speak, but I would think that restraint needs to be shown when it comes to incorporating many of the more cultural courses. Very few of these people would have the need to be able to speak foreign languages, and if they were able to comprehend the more advanced maths and sciences, then I seriously question whether they should be in this type of program at all.

We need smart young men in our industry, but let's get the calibre of student who is adapted for this field and teach him the fundamentals of mechanics. If possible, let's teach some of them to become parts men, salesmen or managers. In short, let's gear this program more specifically to our needs. Let's teach them the importance of neatness, cleanliness, loyalty, and efficiency.

Agricultural Education Entry Not Planned for Revised Edition Encyclopedia of Educational Research

Agricultural Education will not be listed in the Fourth Edition of the *Encyclopedia of Educational Research*, according to present plans of the Editor. This was learned by Bob Warmbrod in correspondence with Editor Robert Ebel. Part of this correspondence is carried here for the information of all who may be interested in this matter.

It would seem that dropping Agricultural Education as an entry in the *Encyclopedia* at this particular time would be unfortunate and discouraging. For the first time, personnel and funds have been made available for broader research in Agricultural Education, and the results seem most encouraging. Again, the notion that Agricultural Education is concerned only with farming limits our effectiveness and influence in educational circles. In a letter to Professor Abel it was pointed out that relatively little research in Agricultural Education is concerned with "farms and farm managers" as implied in his letter.—*Editor*

Dr. Robert L. Ebel
449 Erickson Hall
College of Education
Michigan State University
East Lansing, Michigan 48823

Dear Dr. Ebel:

Your letter of May 20 indicating that there would not be a separate entry on agricultural education in the Fourth Edition of the *Encyclopedia of Educational Research* was most surprising. I do not agree with the reasons given for deleting the entry on agricultural education. Would you and the Board of Editors be willing to reconsider this decision? I submit the following as reasons for the continuation of an entry on agricultural education in the *Encyclopedia of Educational Research*.

1. Agricultural education is not concerned solely with "training for farmers and farm managers" as indicated in your letter. The Vocational Education Act of 1963 includes the mandate that vocational education in agriculture is education for "any occupation involving knowledge and skills in agricultural subjects." One of the major thrusts of agricultural education during this decade has been and continues to be the development of programs for present and

prospective workers in the nonfarm, or off-farm, agriculturally oriented businesses and industries. Extensive research in some 26 states has shown that almost one-half of the persons employed in the nonfarm, agriculturally oriented business need knowledge and skill in agriculture (animal science, crop science, soils, agricultural mechanics and engineering, agricultural economics, and rural sociology). I have asked Dr. Robert E. Taylor, Director of the Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, to send you a copy of the publication, *Summary of Research Findings in Off-Farm Agricultural Occupations*. This publication, which synthesizes research projects in 26 states, clearly shows that vocational and technical education in agriculture is not limited exclusively to the training of farmers and farm managers.

The above-referenced research and our research at the University of Illinois establish that the number of workers needing agricultural knowledge who are employed in farming and nonfarm businesses is substantial. The University of Illinois study reveals that 41 percent of all employed persons—both those working in farming occupations and all persons working in business and industry—need knowledge and skill in agriculture. The research further reveals that for each farm replacement needed during the next five-year period from three to four workers possessing agricultural knowledge and skill will be needed to meet the demands created by growth of nonfarm business and industrial firms. The report of this research is at the printers. I will forward you a copy of the report in the near future.

These facts, it appears to me, convey rather convincingly that agricultural education, particularly vocational education in agriculture, is much more inclusive than "training for farmers and farm managers."

2. You indicated that training for farming "is no longer so uniquely specific as it once was. More and more it seems to involve engineering and business training. . . ." I agree that the training of farmers and farm managers does involve engineering and business training, but does this eliminate, or even re-



J. Robert Warmbrod

duce, the need for training in the various agricultural sciences (agronomy, horticulture, animal science, agricultural engineering, agricultural economics, etc.)? In fact, rapid technological developments in agriculture and related sciences necessitate a higher level of training for farmers than ever before. No one can dispute the fact that there is a need for trained farmers even though the number of farmers needed in the future may not be as great as in the past. Actually, the number of farms in the United States with annual sales of \$10,000 or more is increasing rather than decreasing. These are the farmers for which training is needed. There is no group better equipped to provide this training than agricultural educators—just another reason why agricultural education remains a significant field of endeavor worthy of study and research. It may interest you to know that the number of persons working in production agriculture in this country is greater than for any other industry.

3. Agricultural education is not concerned exclusively with vocational education in agriculture. Significant facets of agricultural education include general education in agriculture, prevocational education in agriculture, and non-vocational education in agriculture for persons who have a vocational interests in agriculture. The study of agriculture is emerging as a means of education and training for the slow learner, the emotionally disturbed, and the culturally disadvantaged. The combining of agricultural education into an article on vocational education would eliminate completely a discussion of these phases of agricultural education.

4. One of the most rapidly developing areas of agricultural education today is technical education in agriculture. Many of the agricultural workers needed today must have a level of competence which requires post-high school education but, in many cases, of less than a baccalaureate degree. Numerous post-high school technical education programs in agriculture are being established throughout the country. The inclusion of agricultural education into a general article on vocational education would, a-

J. Robert Warmbrod
(Continued from Page 46)

gain, eliminate the discussion of an emerging and essential phase of agricultural education.

5. There has been and there continues to be an abundance of noteworthy research in agricultural education. The Research Committee of the agriculture Division of the American Vocational Association has just completed the compilation of abstracts of 150 major research studies in agricultural education which were completed during 1963-1965. These abstracts will be published as Supplement No. 17 to the biennial publication of the U.S. Office of Education entitled *Summaries of Studies in Agricultural Education*. Incidentally, the publication of Supplement No. 17 will bring the number of abstracts in agricultural education published by the U.S. Office of Education to 3,999.

A perusal of the list of research projects approved under the provisions of the Vocational Education Act of 1963 by the Bureau of Research, U.S. Office of Education will reveal a substantial number dealing with agricultural education. In fact, the first two research projects approved for funding under the provisions of the Act were in agricultural education. Further information concerning current research in agricultural education can be obtained readily from Dr. Duane M. Nielson, Division of Adult and Vocational Research, Bureau of Research, U.S. Office of Education, Washington, D.C.

The foregoing indicates conclusively that there is a body of research in agricultural education worthy of inclusion in the next edition of the *Encyclopedia of Educational Research*.

6. The elimination of a separate entry on agricultural education implies, in not so subtle a manner, that agricultural education is no longer an important area for research and study. The evidence I have presented is ample to refute the implication. I feel that many of the more than 200 agricultural educators who devote their time and energy to teaching, study, and research in the 75 colleges and universities through the country with departments of agricultural education share my surprise, and disappointment, that the topic of agricultural education has been deleted from the forthcoming edition of the *Encyclopedia of Educational Research*. I suggest that the following persons, in addition to those previously mentioned, be contacted for additional information relative to this matter.

Dr. C. W. Hill, President
American Association of Teacher
Educators in Agriculture
Division of Agricultural Education
Cornell University
Ithaca, New York 14850

Dr. Alfred H. Krebs, President-Elect
American Association of Teacher
Educators in Agriculture
356 College of Education
University of Illinois
Urbana, Illinois, 61801

I respectfully request that you and the Board of Editors reconsider the decision not to include a separate entry on Agricultural Education in the Fourth Edition of the *Encyclopedia of Educational Research*. Agricultural education cannot be treated adequately in a general article on vocational education.

Please inform me concerning procedures for submitting a formal request to the Board of Editors for including a separate entry on agricultural education. I eagerly await your reply.

Very truly yours,

J. Robert Warmbrod
Assistant Professor
Agricultural Education
University of Illinois

JRW:ds

cc: Board of Editors

Themes for the Agricultural Education Magazine

November—OUR CHANGING ROLE

Are we in Vocational Agriculture, Agricultural Education, Vocational Education, or Occupational Education? Educational leaders or agricultural specialists? Examine the changing role of the teacher, the supervisor, and the teacher educator.

December—COLLEGE PROGRAMS FOR PROSPECTIVE TEACHERS

Do we have a Model T or 1967 Model Program? What are the major objectives of the undergraduate program? Are these objectives consistent with the demands placed upon the beginning teacher? What responsibility do we have for the student going into other agricultural education positions? Recruiting. Needed guidelines. Needed research. Implications from other areas of teacher education.

January—GRADUATE STUDY

Need. Opportunities. Role of graduate study in professional improvement of teachers, supervisors and teacher educators. What is the present graduate status of personnel in Agricultural Education? Areas of graduate study now being pursued by students at master's and doctoral levels. Full-time vs part-time graduate study. Outlook.

W. J. Cruce

(Continued from Page 44)

Ignoring the situation with the pious hope that it will take care of itself, improve, and disappear from the scene is a second reaction. By refusing to admit that the opposition really exists, the teacher is taking a most unrealistic attitude or position. In rare instances the problem may work itself out. In most cases, however, it will just become more entrenched the longer it persists.

If the teacher expects to remain in the school system and to progress toward full implementation of the broadened program of instruction in vocational agriculture it seems essential that there be efforts made to clarify the issues and to reach a satisfactory solution. It should be understood that while the administrator is not in full agreement or sympathy with certain procedures he is not necessarily against the entire program or the teacher.

Not All Bad

Much good can come from intelligent opposition. Most persons have some blind spots in their thinking. A bit of skepticism well placed may cause the teacher to think through his position and to analyze activities in relation to acceptable goals. In so doing there is a likelihood that need for some revisions will become evident. And as the teacher gives considered attention to the views of the opposition it is conceivable that some new insights will be attained. In facing the opposition constructively the teacher and the program may both benefit as some of the following values accrue:

1. The teacher examines the program for strengths and weaknesses.
2. The teacher thinks through the entire program and possibly clarifies various objectives.
3. An examination of ways and means is carried out to determine if goals are being met effectively.
4. Plans and goals are examined in light of what the teacher is trying to do.
5. A critical analysis of views of the opposition or points of friction is made to determine items of value or suggestions which may be utilized in program development.

482-66566 2-67
Herbert Bruce, Jr.
Teacher Trainer Ag. Ed.
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Lexington, Kentucky

Stories in Pictures

GILBERT S. GUILER
OHIO STATE UNIVERSITY



Teachers in Montana Voc. Agr. departments take time for evaluation and planning of programs with students.



School Administrators and teachers of Voc. Agr. in Washington agreed that planning coordination and evaluation are essential elements of success in a multiple teacher department.
Photo by Knox

Agricultural Education

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Featuring SUPERVISED PRACTICE