The Agricultural Education Magazine, June, 1967

Stories in Pictures

GILBERT S. GUILLER
Ohio State University

Considerable interest is expressed by vocational agriculture teachers and supervisors in Arizona, attending a workshop on small gasoline engines, taught by Marshall Washabaugh of the University of Arizona. Audio-visual materials and demonstration engines were used liberally during the two-day program. (Photo by K. Evans)

Texas Vocational Agriculture teachers, area supervisors, and young farmer teachers work closely in carrying out special educational projects. From left are: J. E. Payne, Supervisor of Vocational Agriculture; VFF State Officer Tommie Knowlton; VFF President mentor Harvey; and Dublin Vocational Agriculture teacher, Wharton Wilson. Also, Young Farmer Bill Eaves—general chairman of the Field Day committee.

Agricultural Education

Volume 40
July, 1967
Number 1

The Next 50 Years
1967-2017

John Jacoby (1967 Agri. Edu. Graduate) is shown by Mr. H. W. Nisanger, the first teacher of vocational agriculture (1917) as he taught seed corn selection in vocational agriculture. However, both have agreed that seed corn selection is not an apparent problem during the next 50 years. Mr. Nisanger taught vocational agriculture, served on teacher education staff and served as junior dean on the college of agriculture at Ohio State University.

1917 .......................... 50th ANNIVERSARY .......................... 1967
1st National Vocational Education Act
Editorials

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THE AGRICULTURAL EDUCATION MAGAZINE

MAGAZINE

Vol. 40, July 1967 No. 1

WHITHER AGRICULTURAL EDUCATION?

About 30 years ago, The Agricultural Education Magazine, featured a series of articles under the general heading or query, Whither Agricultural Education? In spite of the fact that those ways of the day omitted the "d" and the "h", it may be that the 30-year-old query is still worth our consideration. This is one of those questions, and most important questions are of this type, that even though answered at one time, still remain in the forefront of our thought and action. To illustrate the continuing nature of some of our problems, note this quote from the Foreword of this publication:

"The standpoint of changes in technology, an agricultural revolution is taking place in the United States ... as we face the present and long-term problems of agriculture it seems certain that we will have to consider the forces in the services of education, and challenge ourselves anew to improve such services to meet the changing needs of our young people.

So, it is time to encourage to know that many of our predecessors faced problems not too different from those we face. The basic questions and the basic answers remain about the same. Perhaps it is the different setting that causes us difficulty in identifying the problems as well as deciding upon our answers. Remember that the leaders of 30 years ago were talking about "—meeting the needs of young people in planning their life careers in the field of agriculture." Sounds like the speech you heard at that last conference, doesn't it? Maybe instead of going to the next conference you might look in the old files and read Whither Agricultural Education?

But how do we answer this question now and for the years just ahead? The question is difficult, as it has always been. As indicated, the setting may be our biggest problem. For example, the large consolidated school has more factors influencing the work of a teacher of vocational agriculture than the small school did. And, what's more to the point, more of these factors are beyond the control of the teacher of vocational agriculture or the supervisor than was the case in the smaller school setting. This may say that we create some difficulty to the teacher and other leaders in Agricultural Education when they are trying to influence the direction of Agricultural Education. As the Red Specialists remind us, the Agricultural World of the teacher of vocational agriculture who were not there a few years ago. Just to name a few, the Guidance Counselor, Local Director of Vocational Education, Director of Instruction, and several other Vocational Teachers in the school, frequently sharing the same facilities. As indicated, these may all be factors for Agricultural Education, but they are new factors and must enter into trying to answer the question, Whither Agricultural Education?

May I suggest that I believe the first "answer" to the question is that we are really trying to develop truly local programs of vocational agriculture. Yes, I know that we have been talking about that since 1977. However, our "guidelines" have usually been so broad and the local people are smart enough to learn what will be acceptable before wasting time on planning "their" program. The truth of this was seen in one state when the state leaders attempted to require a Local Plan much as the National Plan has been used through the years. May be the answer is "good one", since state leaders have learned that they must go to Washington to defend anything in their State Plan that is really different from the traditional programs. In Washington, they can get away with it. However, when the state is ready to capitalize on the plan, the state must have an Open System plan rather than a Closed System if we are to encourage anything really different than what has been done in the past.

(Continued on next page)

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THEORY AND PRACTICE  
(Continued from page 2)

It seems that we need to keep alive our interest in terminology as we move into new programs and revise old programs; any change in the names of columns, I believe that our difficulty in terminology is deeper than a dic- tionary, the words, and even the process of using them. For example, it can be seen that this term should mean to all of us the entire range of occupations that had once been called "agriculture" in one form or another. Simply putting the words "agriculture" together in any context will not do so be labeled. Some make this more difficult by insisting that the farm be the ultimate place for other people. Such is the basis of a dichotomy and leads us to say "off- farm," or worse, "non-agriculture." I do not believe that the term "production agriculture" will help either. This too sets up a dichotomy of other agriculture being non-production, which leads to still more trouble. There is production agriculture in: Education, Horticulture, Forestry and all other growing plants and animals and even in processing. See the :The Education, Horticul- ture, and Animal Husbandry Classification Areas and Occupational Classifi- cation for further confusing thoughts of this subject. I firmly believe that these matters will be published in Let- ters to the Editor or in a Guest Edi- torial—if you will let me hear from you.

One of the neatest jobs of publishing a magazine that I have seen is The Georgia Peanut Farmer. Published only twice a year, it has a low per copy cost of the States of America. It is a quarterly publication and it is easy to find a current issue. The "Georgia Tiger" is the story of the Louisiana State University, where they have a coffee. As the saying goes, "It may be later than you think."

Missed in the May special on PEA was the story of Illinois FFA Programs in International Understanding. We had part of the story from George Irwin, Illinois, and have since received further information from Ralph Guth- rie and Don Coll of the State FFA. We got the complete picture with a side view of a future issue of the Agr Ed Magazine. Maybe other state associations or local chapters have exchanged programs in other countries. Let me know.

THE AGRICULTURAL EDUCATION MAGAZINE

FORMER EDITOR AND  
PIONEER LEADER DIES

F. W. Dr. Stewart, Professor Emeri- tive, Ohio State University died early this month, leaving behind him five of his daughters. A former Editor of Agricultural Education Magazine, he was instrumental in establishing agricultural education as a separate professional journal. One of his greatest joys was in working with the Agr Ed Magazine.

Perhaps Dr. Stewart's greatest pride and joy, outside his own family were his "hats". These "hats" were worn by most of the teachers, supervisors and teacher trainers in Ohio, but do not forget the students throughout the world. Dr. Stewart kept in personal touch with many of these graduates through the years.

Although Dr. Stewart was probably known best for his PROBLEM-SOLV- ING approach to teaching, he may have contributed most to the thinking in earlier years through his emphasis on the person and his total life. Many of our leaders contributed on agricultural practice, Dr. Stewart was insisting that we be concerned about one concept of a "complete life," or "well-rounded life." More than 50 years ago, he was asking the modern question: "What are the needs of the rural youth when they begin "agricultural" education?" His contribu- tion to the series of articles back in the Agr Ed of 1937 is: "WHITHER AGRICUL- TURAL EDUCATION?" along these lines.

JULY, 1937

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WE SHOULDN'T TRAVEL ALONE

J. G. AHERTON, Teacher Education, Louisiana State University

An unusual amount of attention is being focused upon the current program of education in vocational agriculture. Perhaps the area receiving greatest scrutiny from the critics is the in-school or all-day program. It has been dismembered, dissected, analyzed, questioned, and the oxide has been removed. Some have even said that while others were upholding the efforts which had gone into their life's work. No doubt, many persons holding a variety of positions covering the different aspects of vocational agriculture have been sincere in their expressions of fear, or lack of it.

We should readily admit that our field has not reached the epitome of per- fection, as this would be too obvious. However, we need not apologize for our honest efforts which are directed toward the improvement of the educational venture. Our problem is one of assisting the profession in its metamorphosis from training indi- viduals solely for a production farming emphasis to a much broader field of or- dinary, embracing agriculture in its totality.

There are some in our field who say the original intent of the Smith-Hughes Act was broad and included training for employment in a much wider field of agri- culture. The Act was given a much narrower interpretation, and even today there are some who cling to the original interpretation as though it were sacred and hold that any deviation from it is sacrilege.

Within the past several years interest in updating vocational agricultural education has been evidenced in all parts of the nation. The Congress showed its concern through passage of the Act of 1965. Educators in the various states have made some steps toward program change. This range from the hiring of project, pilot programs, demonstration centers, to completely broadened curricula on a statewide basis. A large question still facing agricultural edu- cators is: what is the role of vocational education and how can full imple- mentation and acceptance of this be brought about?

As educators we have been confronted with the problem of preparing individ- uals and communities to make the changes needed to bring vocational agriculture up to date. It is the philosophy of some persons that experimentation, preparation of teaching materials, study and a general reorientation of members of the profession of education in vocational agriculture would be the up-dating of the program. To a large degree our efforts have been concentrated in these areas. It seems to the writer that those who stop at this stage are only partially right. No fault is implied in this position. Many of us are living in a highly scientific age, one of our basic problems is still ideological.

For years we have marded upon preparing youth for farming. Not too much attention was given to the idea of preparing youth for other destina- tion following their removal from the secondary school through graduation or the drop-out. Justifiable pride was taken in the increase in efficiency of the farmer and the abundance of food and fiber which permitted this nation to allocate suffering in various parts of the world through sharing. Then the status quo in vocational agricultural education was maintained, justified, and defended. One of the problems that we are now facing is that of the more rigid attention being given to their line of reasoning. A few visionaries within could see the handwriting on the wall. But their proposals were usually disposed of with the thought of study. Hence, we find ourselves out of step with the times and in danger with various groups including elements of the educational institution. Putting it another way, one may say that the all-day program will not win today's ball game; so we must revamp the "teams" so that it is set for the current season.
Instruction Areas or Occupational Classification?

How do we in Agricultural Education arrive at the official Classification of Agricultural Occupations? Although the last list that I have seen was marked "For Distribution Purpose" (11/2/86), it appears to be the official document. On the document as part of the heading is this: "For Reporting Purposes on Forms OF-404 and OF-4046." That sounds like a paper from the U.S. Office of Education that has already cleared the necessary hurdles to become official. We have tried to keep up with this development and to keep the readers of Agricultural Education informed, because we believe that this is an important development and may influence what the teacher of vocational agriculture does. Consequently, it will determine how he officially reports what he does. So, we will attempt to review the development as we have been able to keep informed.

Hearing indirectly about the development of Instruction Areas in Agriculture, I asked Dr. Glenn Stevens, Pennsylvania State University, to write an article for this magazine on this matter. He did and the article appeared in November, 1966, along with a picture of the Ad Hoc Committee for Agriculture. The picture along with information on the work of the committee was furnished by Dr. James Henzel, Center for Vocational Education, Ohio State University. Mr. Neville Hummick, Chief, Agricultural Education, U.S. Office of Education, has also been asked to make any additional contributions so that readers would have full knowledge of the proposals. AWA Vice President Floyd Johnson cooperated in the work of this committee. I am not sure what has happened.

According to the article by Professor Stevens, the purpose of the list of Instruction Areas was to serve as a guide. When published, the list will be intended to be used only as a guide by individual states. Adjustments to meet regional needs should be made.

The Instruction Areas tentative are being considered also as the classification for reporting individual student occupation objectives.

It was the latter part of the above statement that has caused some of us to furiously write to our legislators in your areas. In response to a MEMO from the U.S. Office, our Teacher Education Department developed a list of areas and sent to Mr. Hummick. I know of some others who responded and I presume that a number of others also responded. In spite of these responses and the work of the committees, it appears that the list of areas remain essentially the same as the first list that was issued. So, the process of trying to get suggestions and participation from all seems to be there, but if any worthwhile responses were received they have not yet been incorporated into the listing.

So what? There are two major concerns that I believe deserve our attention and concern. It may already be too late for the first official list, but it is never too late to make some changes if we can decide that they are really needed.

The main concern is that the listing of the areas is too long on the one hand, while still not including a major agricultural occupational objective. We need a listing that everyone can/really agree on and talk about. The 16 areas now listed are dups and overlapping; making it difficult to clearly understand and explain to others considering entering the program. (How many of you can name all 16 areas? The correct answer is 10). Further, there seems to be an mistaken entire is that of Agricultural Provisions. Of the many listings that I have seen, I suggest that one being used on a brochure in Georgia comes near meeting the objection raised here. This listing is given in the adjoining column for your information and reaction.

SOME JOB OPPORTUNITIES IN AGRICULTURE

Agricultural Production

Seed Grower
General Farmer
Crop Specialty Farmer
Dairy Farmer
Dairy Specialist
Poultry Farmer
Poultry Breeder
Swine Farmer
Swine Specialist
Livestock Farmer
Livestock Specialist
Tree Farmer
Tree Specialist
Farms Worker
Farm Equipment Operator
Farm Manager and Foreman
Nursery Operator and Flower Grower
Landscaper and Contractor
Horticulture Operator
Tree Grower

Agricultural Business and Service

Food Technology
Dairy Technology
Farms Machinery Salesman
Farms Supply and Equipment Store Manager
Poultry Inspector
Veterinarian Assistant
Arborist and Forester
Livestock Grader
Nurse in Production Worker

Agricultural Professions

Most of which require college and graduate school study

Landscaping Architect
Agricultural Writer
Agricultural Chemist
County Agent or Farm Demonstator
Agricultural Engineer
Teacher of Agriculture
Veterinarian
Agricultural Consultant
Agricultural Economist
Agricultural Soil Scientist
Agricultural Soil Conservationist
Agricultural Ornamental Horticulturist
Forestier
Animal Husbandman
Poultry Husbandman
Plant Pathologist
Economist

CONGRATULATIONS, MR. PRESIDENT!

On July 1, 1967, Floyd Johnson breaks another record. He is rapidly accumulating a long list of FIRSTS. He will become the first teacher of vocational agriculture to be AWA President. In fact, his firsts in AVA activities will be extremely difficult to match or exceed. However, as the athletes say, records are made to be broken, as Floyd would join the Elite, I am sure, in saying to any young teacher that he should certainly try to break the Floyd Johnson record! But, let's admit that it won't be easy.

There will be much more said about the AWA President in the August AJED Magazine when we feature Our Professional Organizations.

INSTRUCTION AREA OR OCCUPATIONAL CLASSIFICATION?

"Continued from page 6"

The traditional difficulty of clearly listing Agricultural Professions as an occupational objective should not prevent our listing this area if it is needed. I believe that it is greatly needed for many reasons. As indicated in Theory and Practice, it is usually those saying that teachers of vocational agriculture are low persons in recruiting for future teachers, yet the profession is not even listed in Classification of Agricultural Occupations. The only reference to the profession of teaching vocational agriculture is under 01.99 Other Agricultural Teacher. As indicated in the Georgia listing, I believe that the area of Agricultural Professions should be prominently listed. Further, if teachers of vocational agriculture are to get any "college-bound" youth in their classes, I believe that the Guidance Counselors should know that vocational agriculture is indeed a good beginning for the young person interested in pursuing one of the many agricultural occupations which are acquiring one or more college degrees.

Whether or not you share my concern in this matter I would be pleased to hear from you. If you think this matter worthy of further discussion I would like to publish your letter in this capacity.

Gary Scarborough

NEW SPECIAL EDITOR

Howard Sidney is the first Special Editor for Post-Secondary Agricultural Education. Howard is Chairman of the Agricultural Division, Agricultural and Technical College, Coblissville, N.Y. He has been asked to help us keep in touch with the rapidly developing post-secondary programs in Agricultural Education in the Technical Institutes, Community Colleges, and other types of institutions throughout the country. Teachers of vocational agriculture and other leaders in all areas of Agricultural Education need to understand all programs and how they are interrelated.

Teachers and leaders in post-secondary programs in Agricultural Education are invited to submit articles or other ideas for professional development to Howard Sidney at Coblissville.


Organized in three parts:

1—Feed, Forage Crops, and Grasses
2—Plants of Grain, Filler and Root Crops, and Tobacco
3—Woods, Insects, and Diseases

An introductory page generally explains the meaning of terms commonly used in crop production. An improved Practice in Crop Production is practical, easy to understand, and to the point. Pictures and charts illustrate the effectiveness of the book. Should be a valuable reference for high school students of vocational agriculture.

The authors are associated with the College of Agriculture, University of Wisconsin.

Floyd L. McKinnon
Michigan State University
WE, in Agricultural Education, must make several changes to meet the challenge of the NEW Agriculture, which is not only expanding, but dynamic in its growth.

Here at Amphitheater High School in Tucson, Arizona, we recognize the problems of change in Agriculture and the rural community. The following course序列 is presented:

A. A shifting in the local economy from a rural to an urban population.
B. A decline in the number of farmers and ranchers in producing agriculture.
C. A feeling of isolation in the community due to urban sprawl.
D. A general decline in livestock operations due to declining prices.
E. A decline in the number of scientists and federal support for agricultural and rural development.
F. An old image of Vocational Agriculture and other areas.
G. A lack of agricultural education in a large comprehensive high school because it is Vocational and a minority of students take it.
H. A rapid technological advance in agriculture which is difficult to keep up with.

There are perhaps many other problems facing agriculture, several of which are local, that have complicated the teaching of agriculture in high schools. However, if we want to keep our departments, we must have our share of the monies from the VEA 65, and train agriculture job entry personnel, we must change.

Vocational farm practices. Projects that have improved our situations here are:

1. Raising of pheasants for game reserves and experimentation.
2. Breeding and showing of sunflower-type seed varieties for a large 3-H and FFA market.
3. Raising of Mexican corn — a specialty corn used in the making of tortilla flour and Mexican foods.
4. Truck-cropping for the city market.
5. Growing hay for the large number of alfalfa cows in the area.
6. Bee-keeping and other small animal enterprises.
7. Growing of specialty nursery plants.

Work experience has been developed individually and cooperatively. Individual work-experience programs have been in:

1. Agricultural sales and service.
2. County extension service.
3. Agriculture-related sales and service.
4. Nursery and landscaping.
5. Poultry, swine, cattle, and sheep operations.

Cooperative projects have included:
1. Installation and maintenance of a 12-acre polo field.
2. Weed control and grounds maintenance jobs.
3. A 4-H lab in the community.
4. A co-op tract for field crops.
5. Experience on a school lawn in an urban gardening area.

The extended courses and supervised agricultural practice have brought to the community a new interest in the leadership of agricultural leaders and the growth of the Vocation programs in agriculture. Student experience has been enhanced by the new laboratory laboratory assistance. These laboratories have not only kept the teacher in the teaching of the students, but the students have been able to develop educational experiences in the teaching of agricultural leadership. The laboratories have helped to develop a hermanita and maintain various land laboratory.

Robert L. Johnson, head teacher, made a comprehensive survey to determine what further changes are needed in our programs to meet the needs of agriculture in our locality. The rapid change in curriculum, the guidance needs of students who are vocational oriented and of capable ability has not been what we had wished. Also, additional facilities are needed. We would like a large greenhouse, a small animal laboratory, and a field-crop laboratory. More Than Farming" and educational and expansion of the Vocation programs in agriculture. Student experience has been enhanced by the new laboratory laboratory assistance. These laboratories have not only kept the teacher in the teaching of the students, but the students have been able to develop educational experiences in the teaching of agricultural leadership. The laboratories have helped to develop a hermanita and maintain various land laboratory.

Our effort in meeting the challenge of a new agriculture have been fruitful. We have had a 50% increase in student enrollment (15%) of that increase is upper-classmen who have not taken Vocational Agriculture), a substantial increase in number of dollars earned and hours worked by students with supervised agricultural practices, a larger percent of student enrollment in agriculture classes, and a more接收别人的社区，为大学的需要提供训练，在农业和农业进行培训的农业，进行相关的农业培训。
Crisis Looms —
Shortage Spurs Recruitment Efforts
RALPH J. WOODIN, Teacher Education
The Ohio State University

Source of New Teachers
The new supply of teachers of vocational agriculture comes from 76 different colleges and universities which are approved for the preparation of such teachers. Last year they produced 1,151 teachers—more than enough qualified persons to fill the 1,077 teaching positions. The catch is that not all those qualified decided to enter teaching. Last year only 63% elected to teach, and this percentage grows smaller each year. As can be seen in table 2, more than six other fields compete with the public schools for the services of these graduates.

In looking to the future, it would seem likely that competition for agricultural education graduates would continue, and that the percent of those entering the teaching of vocational agriculture might be even lower than 61% reported for 1965-66.

Based on returns from 25 of 78 institutions in 49 states qualified for preparing teachers of vocational agriculture.

TABLE 2
Occupations of 1965-66 Graduates in Agricultural Education in the H.S.

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Num. Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching vocational</td>
<td>706 61.4</td>
</tr>
<tr>
<td>Agriculture Students</td>
<td>110 10.0</td>
</tr>
<tr>
<td>Other work</td>
<td>94 0.2</td>
</tr>
<tr>
<td>Armed forces</td>
<td>83 7.2</td>
</tr>
<tr>
<td>Teaching other subjects</td>
<td>62 5.4</td>
</tr>
<tr>
<td>Farm Sales, Service</td>
<td>62 5.4</td>
</tr>
<tr>
<td>or Supply</td>
<td></td>
</tr>
<tr>
<td>Farming</td>
<td>51 2.6</td>
</tr>
<tr>
<td>Total number</td>
<td>1,151 100.0</td>
</tr>
</tbody>
</table>

College Enrollments—
Ag Ed Down
The changing pattern of enrollment in colleges of agriculture and in departments of agricultural education is shown in a 1967 study of enrollments in 14 colleges of agriculture in the north central region. This study reported by Dr. Louis M. Thompson compares percentage change in enrollments in these institutions over five year periods from 1956 to 1966.

TABLE 3
Percentage Change in Enrollments in Selected Colleges and Universities in the North Central Region

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total enrollment of agriculture</td>
<td>20.8%</td>
<td>14.1%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Total enrollment of agriculture</td>
<td>5.2%</td>
<td>5.8%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Teachers interested in agriculture</td>
<td>51.4%</td>
<td>47.8%</td>
<td>45.9%</td>
</tr>
<tr>
<td>Teachers with temporary certificates</td>
<td>25.2%</td>
<td>24.6%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Estimated number of teaching positions by 1950</td>
<td>11,257</td>
<td>10.9%</td>
<td></td>
</tr>
</tbody>
</table>

This study showed that total enrollment in agriculture which had totaled 1,285 in 1956 had dropped to 1,013 by 1961, but increased to 1,297 in 1966.

These figures suggest that while some improvement has occurred in these states that it still is far from sufficient to meet present demands. As a meeting in March of 1961, twelve of the above states reported an aggregate shortage of 160 teachers as of July 1, 1967. On the brighter side, however, these states reported some increase in number of college graduates. This year they expect to graduate 415 persons, while a year later they predict that 502 will be qualified for teaching.

Goals for Recruitment
It appears that recruitment efforts need to be directed toward a goal of having each teacher now in service guide one of his presenting students every four years into preparation for teaching vocational agriculture. For the nation this would mean that, annually, 20% of agricultural graduates would enter four year college programs to prepare them for teaching. It could be expected that 80% or 2,065 would graduate. If 60% of these entered teaching this would provide 1,259 replacements. On the demand side, a ten per cent turnover would require 1,032 teachers and a three per cent increase in new departments would require an additional 329 teachers making a total of 1,361—still a few more jobs than candidates for them.

To sum it all up, a minimum recruitment goal for any state should probably be to have a number of future teachers equal to one fourth of the number of teachers in the state entering teacher education programs each year. Another way of saying it is that if every vocational agriculture teacher had one student enter vocational agriculture once in four years, our problem of teacher supply would be met.

These goals do not take into account the need for more selective training those qualified for teaching. Another new demand is for teachers for merging agricultural programs in junior high schools and community colleges. These positions, usually filled from the ranks of teachers of vocational agriculture, create still more vacacies which must be filled.

A Promising Start
Most states have initiated new recruitment activities and improved and expanded past activities. Over forty states have organized formal recruitment commissions or committees. State teacher associations have lent support to scholarship funds, recruitment luncheons and a variety of activities. Departments of agricultural education have joined with their agricultural colleges in promoting recruitment activities for the college of agriculture knowing that the first problem is one of getting students enrolled in an agricultural college. Agricultural education clubs and collegiate FFA chapters have developed well-planned programs.

The NVATA has taken an active part in the recruitment effort. The association has encouraged many state association activities, and this year will make available to each state a certificate recognizing Teachers of Teachers.

The impact of all of this activity must finally result in a larger number of preparing high school graduates learning of the promise and challenge in teaching vocational agriculture. It can be assumed that the vocational agriculture teacher is the person who is most influential in this task.

The key role of the teacher of vocational agriculture in the recruitment effort is evidenced by our "secret weapon." The Professional Personnel Recruitment Committee for Agricultural Education has the task of those who will help in securing an adequate supply of vocational agriculture teachers or that of providing local vocational agriculture teachers with first, an appreciation of their own importance, and second, a continuing supply of facts, information, encouragement and materials to do the job.
FARM OR COLLEGE?

— So is FFA

R. LAND BARRON, Professor of Agriculture
Navarro Junior College, Corsicana, Texas

The emphasis on "establishment in farming" in the Future Farmers of America has led to the frequent criticism that the FFA keeps farm boys from going to college. Admittedly, such emphasis is a major basis of awarding the State and American Farmer Degrees. And the ve-ag teacher, who has been proud when one of his FFA members received such recognition, only too often finds that young man wanted to continue with his farming program after high school graduation, while the parents wanted him to go on to college. They had opposing views of point, about which there was seldom opportunity for compromise, on a decision that would materially affect the future of the young man.

The student had taken his teaching well and was progressing with expansion plans for full-time operation... and he looked to the teacher to back him in his efforts to convince his parents that he was doing the right thing.

On the other hand, the parents, above all else, wanted to see their son get a college education. Their son's Adviser whom they had learned to respect, had college education... so they looked to that Adviser to help sway their son to go on to college like he did. It is an awkward situation that undoubtedly has happened innumerable times, for what we often speak louder than what we say. And whose "side" should the Advising teacher take? With the tremendous changes that are taking place in agriculture today, we would have to conclude that "no one knows for sure."

FFA and College

Whatever the decision might be in a single case, the "indoctrination" against the FFA should have a broader base. For if the FFA is keeping its members out of college then one would expect our college enrollment in agriculture to be largely of farm boys who have not been members of the FFA. With this thought 72 students majoring in agriculture at Navarro Junior College in Central Texas were asked to respond to a brief questionnaire.

Of the 72 respondents, 62 had averaged slightly more than three years of vocational agriculture in high school, while 61, or six out of seven, had been members of the FFA an average of 3.36 years. Of this number, 10, or one of every six, had received the State Farmer Degree and 20, or a protractedly one-third, indicated they were planning to teach vocational agriculture. The next largest occupational choice was ranching, obviously influenced somewhat by the fact that they expect to inherit some land.

Why Major in Agriculture?

When asked to list items in order of the importance of their influence on their choice of professions the former FFA members ranked the items in the following order:

1) "The agricultural work"
2) "Being reared on the farm"
3) "Study of vocational agriculture"
4) "Enjoyment of FFA activities in high school"
5) "I will inherit some land"
6) "Salaris of agricultural workers"

Of the 62 who listed the inheritance of land as an influential factor in their choosing a profession, 35 of them listed both their study of vocational agriculture and FFA activities as major influences. The 35 gave vocational agriculture an average rank of 5.60, FFA activities in high school an average rank of 4.66, and the inheritance of land an average rank of 5.06.

Conclusions

While the scope and procedure of obtaining the data above is subject to more scientific scrutiny, it does seem to indicate significantly, that vocational agriculture and the FFA have more influence on young men in choosing a profession that includes college training, than the inheritance of land. At least in part it seems to refute any "credic" the FFA might receive for keeping farm boys from college.

PRACTICAL CONCRETE WORK IN FARM SHOP

HEIMR SWANSON, Vo Ag Teacher, Pipestone, Minnesota

An interesting project was added to our Farm Concrete Unit in Farm Shop at Pipestone High School this fall. We would usually expect to include the normal study and experience in Farm Concrete in this course. This fall, however, all of the students became interested in a portion of an Iowa State publication that described a method of casting and testing small concrete beams. After due consideration to the possible learning experience involved, it was decided to include this in the class program. The references used were "A PRACTICAL COURSE IN CONCRETE" published by Portland Cement Association and "QUALITY CONCRETE" published by Iowa State University of Science and Technology at Ames, Iowa.

The Project

The class cast concrete beams 12 inches long by 1 inch wide by 2 inches deep. Ten groups of beams were cast with 7 beams in each group. Each of the ten groups of beams incorporated a different method of construction such as different water:cement ratios, curing methods, reinforcing methods, etc. Several of the students then constructed a beam testing machine. Plans from the above listed references.

About the middle of December, the curing period was completed and testing began. Since the numbers of beams tested for each method were in many cases somewhat limited, it is impossible to draw definite conclusions from the entire program. However, certain recommendations in concrete construction were substantiated by the project and these will be briefly discussed here.

The Results

A six gallon paste was stronger than an eight gallon paste. It required 206 lbs. to break the beams from the 6 gallon paste compared to 157 lbs. for the 8 gallon paste. The 6 gallon paste were slightly stronger than the beams from the 6 gallon paste.

Frecking weather during concrete cure was found detrimental to strength. One group of beams were cured out-side during a cold snap in November. These beams broke at 165 lbs. A 6-7 day curing period (or longer) is recommended since the strength of concrete increases with the length of curing time. With beams cured for the following periods—no cure, one week cure, and 28 day cure—the breaking strength of the beams was 170 lbs., 195 lbs., and 211 lbs. respectively. These were cured by placing the beams in piles filled with water and leaving them submerged for the required time.

When reinforcing is placed in a feeding floor slab, it is recommended that this material be placed toward the bottom of the slab rather than in the middle or top. In testing the beams, they were placed under strain only until a hair line crack appeared. Because of reinforcing, complete breakage did not occur. The results of our tests indicated that if the reinforcing material was placed near the top of the beam, (and the strain applied from above) these beams were only about 75% as strong as if the reinforcing was placed near the bottom.

Several suggestions can be made from our experiences. A vibrator or a vibrating table would help to insure that the paste is uniformly placed in the form and that no pockets occur. Results from reinforcing didn't compare favorably to non-reinforced beams. The size of beam does not allow proper placement of reinforcement in the beam—it is placed too close to the edges and too close to either the top or bottom. The strength difference between top and bottom positioning can be compared, however.

The beam tester we made had an estimated mechanical advantage of 5.6 and a practical mechanical advantage of about 5. The suggestion in the reference that this be made of oak should be followed. A lot of strain is exerted on the tester during testing procedures. This project turned out to be a very interesting and practical supplement to the regular course material.

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THE AGRICULTURAL EDUCATION MAGAZINE

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Volume 40

THemes for the agricultural education magazine
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Volume 40

September —TEACHING EFFECTIVELY
(High School—Post Secondary—Adults)

October —INOVTIVE PROGRAMS
(Local Vo Ag Cooperative Programs)

November —OCCUPATIONAL EXPERIENCE
(In All Areas of Agricultural Education)

December —TEACHER PREPARATION AND CERTIFICATION
(Requirements B.A., M.S. Special Trends)

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The Editor
MECHANICS INSTRUCTION FOR TODAY

M. C. KNOX, Supervisor Agricultural Education, Olympia, Washington.

Regardless of the status of the person enrolled in vocational agriculture, whether he be in high school, junior farmer, and adult classes, or post high, the teacher of vocational agriculture must analyze the needs of the enrollee. He must face the situation as it is in his own community even though many trainers may not remain in this community.

Skills Still Essential

Observing classes and talking to vocational agriculture teachers over the years convinces me that skills in all of the five areas of agricultural mechanics are essential. The stage at which they are taught, whether taught in the classroom, the shop, or the field, becomes very important.

In the high school the basic skills in the use of tools must come first. A boy who cannot use hand tools, power tools, welders and so on skillfully, is not going to do good repair and construction work later on. Much of our advanced high school shop instruction has been project centered. With more and more farms removing from situations other than full-time farms, it would seem to be increasingly necessary to create programs that will continue the skills instruction throughout their high school days. Certainly a unit on small gasoline engines may replace the unit on the preventative maintenance of tractors in many communities. The important thing to keep in mind is that these basic skills will be of value in future years to the student who learns them well whether he be as a full-time farmer, part-time farmer, a worker in off-farm agriculture, or as a citizen with a home to maintain.

The enrollee in a young farmer or adult class will express their needs adequately. Possibly, the expression of those needs led to the formation of the class. If they need the basic skill of arc welding to repair broken machinery in the field or to construct needed equipment, that is the kind of class it will be. If, instead, they need discussion with other farmers or resource people so whether to buy, rent, or custom hire a certain piece of machinery, then the class will be organized accordingly.

The post high school program will be constructed specifically to attain definite objectives for those who plan to become employed in a certain occupation. It will be taught by a person skilled by training and experience in this field of work. The facility will contain the tools common to the occupation in a modern shop or business.

Whatever the type of community, or the type of student who enrolls, we must be open to desirable change, building on the experience of past years and be ready to adapt our teaching plans to the needs of agriculturally inclined people in each community.

5½ Million Get Vocational Training

Before the Smith-Hughes Act was passed by Congress 50 years ago, there was no organized program—nationally, statewide, or locally—to teach young people and adults skills in vocational fields. Since 1917, "vo-ag," "home ec," and "trade schools" have become familiar and highly rated terms to most citizens. Since World War II, training in many other vocations has been added.

Today more than 5½ million young people and adults are enrolled in some type of vocational education—in more than 17,000 schools. This is a mighty boost to trained manpower—and socioeconomic.

As we look ahead and recognize nature and speed of continuing change, we are bound to say that vocational training will be needed even more in the next half century. Vocational education will itself have to change as rapidly as the nation. For, to use a familiar example, a farm boy planning an agricultural career now needs to know not only how to grow corn but why corn grows, then how to sell it as a profit.

So in this fiftieth anniversary year, we commend and congratulate all who have a part in building, promoting, and perfecting modern vocational education—that we might have better workers, better citizens, and better America. Vocational education has won the people's confidence and made a permanent place for itself. We predict that during its second fifty years, at a time when still greater growth will be placed on vocational skills and training, it will make an even greater contribution to education and to America.

—The Progressive Farmer, March, 1967
EMLOYMENT OPPORTUNITIES FOR AG INSTITUTE GRADS

RICHARD GORM, Graduate Assistant, New Mexico State University

In September 1966, New Mexico State University initiated the Agricultural Institute, a two-year post-high-school pilot program offering curricula in Agricultural Mechanics and Applied Horticulture.

A recent research project was launched to determine the number and type of employment opportunities in mechanics and horticulture available to high school graduates from the program.

In October 1966, questionnaires were sent to 211 randomly selected nursery and horticulture employers in New Mexico and 153 randomly selected machinery and implement dealers in New Mexico and west Texas.

In Ag Mechanics

From the questionnaire responses, some definite characteristics in terms of salary and needed occupations have been suggested. All employers indicated in the survey that they would hire a graduate of a two-year program at a higher salary than they would hire a high school graduate.

In Horticulture

Table II reflects the occupations most desired by the horticulture industry, but does not provide data relative to the extensive number of family-owned and operated nursery businesses in New Mexico.

After compilation of data from the mailed inquiry instrument, nursery and machinery dealers were invited to the Agricultural Institute to further suggest methods and technical materials needed to prepare students for the mechanics and horticultural industry.

The thoughts from those vows in the field supplemented with research survey results will be instrumental in determining the focus of curriculum and occupational objectives utilized in the Agricultural Institute.

A committee of machinery dealers from New Mexico implementing occupational research findings to two-year post-high-school curriculum in agricultural mechanics and applied horticulture at the Agricultural Institute, New Mexico State University.

TABLE I

<table>
<thead>
<tr>
<th>SALARY AND EXPECTED JOB OPENINGS WITHIN THE NEXT THREE YEARS FOR AGRICULTURAL MECHANICS*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting salary</strong> per week <strong>Average Range</strong> <strong>Number of Openings in next 3 years</strong></td>
</tr>
<tr>
<td>Tractor, Machine &amp; Diesel Mechanic</td>
</tr>
<tr>
<td>Machinery Parts Clerk</td>
</tr>
<tr>
<td>Mechanic's Helper</td>
</tr>
<tr>
<td>Mechanic</td>
</tr>
<tr>
<td>Service Station Attendant</td>
</tr>
<tr>
<td>Service Station Mechanic</td>
</tr>
<tr>
<td>Wholesale Cash Register Operator</td>
</tr>
<tr>
<td><strong>Total Jobs</strong></td>
</tr>
</tbody>
</table>

*Based on 67% questionnaire response

A series of guidelines for improving articulation between high school and two-year college curricula were developed as given here:

1. A Knowledge of Program Offerings
2. Program Titles Should Reflect the Actual Content and Intent of the Training
3. A Program Should Have Clearly Defined Job Titles or Families of Jobs Which Graduates May Expect to Enter
4. Qualifications for Entry Into the Educational Program Should Be Spelled Out in Detail

A series of guidelines for improving articulation between high school and two-year college curricula were developed as given here:

1. A Knowledge of Program Offerings
   - Essential
   - Instructors at each level should be fully aware of the offerings in agriculture, specialty, and the institutional areas at the technical college should have copies of courses studied used at the high school level. This is a school instructors should have catalogue of the technical colleges plus brief one-page summaries of objectives, course content, and related information of the major offerings.

2. Program Titles Should Reflect the Actual Content and Intent of the Training
   - The more specific the programs are labeled, the less misunderstanding should result. Most subject matter areas may have several major subdivisions. Unless a program is clearly designed to be general in concept, it should give the specialized area within the major subject matter discipline which will be stressed.

3. Programs Should Have Clearly Defined Job Titles or Families of Jobs Which Graduates May Expect to Enter
   - The specific job titles or job families that graduates may enter should be listed. Students should be clearly aware of the jobs for which they are equipped by their training whether upon graduation from high school or from the technical college.

4. Qualifications for Entry Into the Educational Program Should Be Spelled Out in Detail
   - The required previous education or courses, experience and background, as well as the academic knowledge and abilities (judged by standardized tests) at both levels of program, must be given. These statements should be specific, stating the requirements, recognizing that selection will be made in cases where more students apply than can be accommodated.

5. A Checklist of Skills and Abilities Needed by Beginning Workers in the Specific Job Title Should Be Available
   - Adequate and thorough planning of courses necessitates knowledge of what workers do on the job. Research is already completed, including follow-up studies of recent graduates, should enable course planners to provide meaningful educational experience in the classroom and laboratory.

6. Curricula and Course Offerings Must Be Continually Evaluated and Updated
   - New demands upon workers and increases in scientific and technical knowledge make it necessary to keep abreast of changes in his specific courses or program fields.

7. Opportunity for Work Experience in Connection with the Program Is Desirable
   - At the high school level, appropriate work experience is a required part of the program. In some technical college situations work experience internships are required. Students should have opportunity to work in the field at an appropriate wage. Not only will this strengthen their formal course work but the exploitative experience will help students firm up career choices.

8. Students Should Be Provided With Career Information and Counseling Information at an Early Date
   - Vocational and educational guidance should be a part of the program at all levels. Students should be aware of the opportunity and qualifications for continued formal education at technical and four-year colleges. In addition, the opportunity to progress on the academic track is desirable. The academic track should be outlined, as both formal and informal study opportunities should be stressed.

(Continued on page 20)
A purpose of the study was to determine if vocational agriculture departments operating owned land were receiving benefits enough to justify their use in an instructional program. The major reason for operation of school farms was reported as providing an outdoor laboratory and may be very beneficial for instruction and demonstration of new techniques in agriculture. A major responsibility of a vocational agriculture department is to provide experience for the student. Some departments are interested in providing agricultural research and test data to the community or use the farm for a classroom laboratory, while other departments would favor the major role of their land operation being that of a money making project for their FFA chapter.

Questions often arise in regard to the operational procedures of vocational agricultural departmental land. How should the machinery be provided? The expense of purchasing machinery to carry out land operations may be detrimental to a successful operation. The student may have the machinery from their home farm. If this is true, the equipment can be used in the classroom or if not they will be compensated for the use of the machinery. The local machinery dealers are aware of this many worth cooperation with the vocational agriculture department in providing the machinery needed for the educational program. Many students will more likely do most of the work, but how much will be done by the students? Will the program be designed to have them spend endless hours working on the test plots? Certain crops must be cared for while school is in session. Should the students be allowed school time to participate in field work? The two previous studies and after school time may be sufficient in certain cases. The summer work load of students on their farms may allow them to help. The time the class takes part in any work necessary on the school farm during the summer months. The final purpose of the study was to determine how these vocational agriculture departments secured land that was determined by the total instructional program and how many schools sold or rented land for educational purposes only. In fact, 93 per cent of the schools reported using some of the land they operated for the purpose of demonstration test plots. The remaining 7 per cent used their land operated for a money making project. Identifying the test plot area can easily be accomplished by use of a grid. A typical grid designating the test plot area and the operation which was carried out with the vocational agriculture department in the accompanying plot. A grid plan to show the plot can be seen on the sign.

The findings of the study reveal the operation of school owned land by vocational agriculture departments is feasible. Instructors in 93 per cent of the schools studied believed the educational purpose should be limited to demonstrating new varieties and technology, rather than to experiment with something not yet fully developed by research personnel. The operational procedures employed by the vocational agriculture departments utilizing school owned land were acceptable to the majority of schools. The crops used for teaching were: corn, soybeans, potatoes, oats, wheat, barley, and hay. Many schools had changes in the land use for different periods of time. The majority of schools changed their land use for different periods of time. The majority of schools changed their land use for different periods of time.

The vocational agriculture instructor in the schools studied believed the operation of school owned land should be encouraged. This type of operation gives young men and women a chance to be of service to their community. This was evident in 96.7 per cent of the instructors polled in the study. It is the responsibility of the vocational agriculture leadership training according to 96 per cent of the instructors of the schools studied. The schools in the study indicated they owned some machinery. Financing a land operation is a major problem of school operating school farms in other states. All 29 schools in the study indicated the operation of school owned land was self financing.

The method of land acquisition for vocational agriculture departments was as follows: 58 per cent of the schools gave an example. The FFA Training Act for assistance and after several months were given approval to use the land for 20 years. The majority of schools for educational purposes only. In fact, 93 per cent of the schools reported using some of the land they operated for the purpose of demonstration test plots. The remaining 7 per cent used their land operated for a money making project.
MANPOWER TRAINING

(Continued from page 19)

assist whenever necessary in the instructional program. With such a combination, one has the local, state, and federal agencies and personnel together to solve a common problem.

The instruction was tailored to meet the needs of the training project. A portion of the training each week was devoted to the entire group whereas instruction of common concern was presented. This consisted of such things as keeping adequate farm records, knowing and feeding feed and livestock, animal health, milking practices, herd management, improving the farmland, pasture and range, processing produce, etc. Much of this instruction was given in classroom and field trips.

Another important phase of the instruction was that of the individual trainee's needs. This is referred to as the "doing" phase of training. That is, the instructor works closely with each trainee and deals with specific problems. Most of the trainees had similar problems, but in various combinations or degree. Upon carefully reviewing each trainee's operation and needs, the instructor determines which trainees will benefit from the group instruction, which will require more individualized learning, and those that need the amount of assistance or as needed and as often as requested. In addition, various farm and community organization personnel, people who had taken courses, class for any assistance they could render.

The Results

The immediate results of the training were such that everyone concerned with the project termed it highly successful. Overall, the practical training was given almost 40% for the last nine months of training compared to the same period one year earlier. This was taken from actual records where milk was marketed. And it is felt that the production will go much higher in the months ahead since many factors such as pasture improvement and higher production are involved. In addition, the artificial inseminations will not reflect real progress for several months or even years after the training project ended.

Likewise the average net worth of trainees was increased remarkably as a result of improved practices carried out on their farms during the year. At the end of training a detailed farm business and financial statement showed an average return on investment for the year to be 7.6% (Average Net Income divided by Average Net Worth). This is a result of the special instruction, trainees are now fully aware of practical services and assistance available as well as how they may participate when necessary. Most of them had avoided the problem of the various services before the course was carried on with plans for further participation.

Follow-Up

Before the project ended the Education Advisory Committee formulated follow-up plans to be carried out after trainees completed the course. It was felt that if these dairymen were permitted to continue training themselves they should continue to avail themselves of current information and support offered by the state and federal agencies. All trainees agreed to participate. Follow-up plans were rather extensive and geared to the needs of the individual

GUIDELINES FOR ARTICULATION

(Continued from page 17)

9. Previous Training in a Special In-
structional Area Should Be Recognized

Students who matriculate in technical college programs with previous training at high school level may well be considered for advanced courses based upon an assessment of their previous training. If their suggestions for the improvement of vocational agriculture in New Mexico, and (9) their warrants for their course benefits received from State FFA Officer experience.

Findings

Data in Table I indicates present employment status and educational attainment of sixty-one former FFA Officers in New Mexico.

<table>
<thead>
<tr>
<th>Employment Status and Level of Educational Attainment</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present position</td>
<td>15</td>
</tr>
<tr>
<td>Future plans</td>
<td>30</td>
</tr>
<tr>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Animal science</td>
<td>2</td>
</tr>
<tr>
<td>Biology</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
</tr>
<tr>
<td>Economics</td>
<td>4</td>
</tr>
<tr>
<td>Engineering</td>
<td>2</td>
</tr>
<tr>
<td>Family economics</td>
<td>1</td>
</tr>
<tr>
<td>Food science</td>
<td>2</td>
</tr>
<tr>
<td>Forestry</td>
<td>1</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
</tr>
<tr>
<td>History</td>
<td>1</td>
</tr>
<tr>
<td>Journalism</td>
<td>1</td>
</tr>
<tr>
<td>Law</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>Philosophy</td>
<td>1</td>
</tr>
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<td>Physics</td>
<td>1</td>
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<td>Polish</td>
<td>1</td>
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<tr>
<td>Psychology</td>
<td>1</td>
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<tr>
<td>Sociology</td>
<td>1</td>
</tr>
<tr>
<td>Spanish</td>
<td>1</td>
</tr>
<tr>
<td>Zoology</td>
<td>1</td>
</tr>
</tbody>
</table>

Summary of Data

Data from all former officers responding to the survey indicated that twenty-two percent of the respondents are presently engaged in production agriculture; and, twenty-four percent are working in non-related agricultural fields. Whereas, forty-four percent of the former FFA Officers in New Mexico are not associated with the agricultural industry.

Fifteen former officers are currently employed in business and of these responses are not reported in Table I. Improving Vo Ag

Table II lists the reasons of the former officers as to improving vocational agriculture in New Mexico.

<table>
<thead>
<tr>
<th>Benefits of State FFA Officer Experience</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits received</td>
<td>20</td>
</tr>
<tr>
<td>Benefits received from</td>
<td>5</td>
</tr>
<tr>
<td>Benefits received from</td>
<td>3</td>
</tr>
<tr>
<td>Benefits received from</td>
<td>2</td>
</tr>
<tr>
<td>Benefits received from</td>
<td>1</td>
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<tr>
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<td>1</td>
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<tr>
<td>Benefits received from</td>
<td>1</td>
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</tbody>
</table>

Benefits in Being State Officer

Table III indicates the reasons of respondents in terms of benefits received from as State FFA Officer.

Conclusions

Conclusions were drawn in light of the findings of the present study.

1. Trends in vocational education activities are moving towards the preparation of students for liberal, leadership-type activities rather than occupation preparation in production agriculture upon completion of high school.

2. A renovation in curriculum is forecast to see an emphasis in related agricultural occupations and employment for high school students.

| TABLE II
<table>
<thead>
<tr>
<th>Suggestions for the Improvement of Vocational Agriculture</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suggestions: 30</td>
<td></td>
</tr>
<tr>
<td>Related occupations</td>
<td>16</td>
</tr>
<tr>
<td>Agricultural occupations</td>
<td>16</td>
</tr>
<tr>
<td>Improve community relations</td>
<td>4</td>
</tr>
<tr>
<td>More emphasis on agriculture</td>
<td>6</td>
</tr>
<tr>
<td>More emphasis on farm leadership activities</td>
<td>2</td>
</tr>
<tr>
<td>More emphasis on farm leadership activities</td>
<td>2</td>
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<tr>
<td>More emphasis on farm leadership activities</td>
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<td>More emphasis on farm leadership activities</td>
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Can a teacher of agriculture in a one-man department prepare students for both pre-professional and service-type off-farm agricultural occupations? Several studies have been conducted that relate to this. The reports dealt with the specific ranking of skills or may secure a copy of a more complete repor by writing for it.

AGRICULTURAL MACHINERY SKILLS AND COMPETENCIES NEEDED BY SALES AND SKILLED WORKERS IN FARM MACHINERY SALES AND SERVICE OCCUPATIONS IN FARM SUPPLIES AND EQUIPMENT BUSINESSES IN FIVE MARYLAND COUNTIES, 1965, AS COMPARED WITH RANK OF NEED BY SUCCESSFUL FARMERS IN MARYLAND, 1963

Although the data in the accompanying table are divided into the two top quartiles, in the following discussion it is considered together, as the top half.

(Continued on opposite page)

Skill or competency, ranked according to

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<tr>
<th>Skill or competency</th>
<th>Farm Machinery Sales and Service Occupations</th>
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<tbody>
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<td>Skill or competency</td>
<td>Skilled Workers</td>
<td>Successful Farmers</td>
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<td>Successful Farmers</td>
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</tbody>
</table>

1. Pit handles in hard tools
2. Repair a damaged appliance cord
3. Cut metal using a hacksaw
4. Replace and repair a window pane
5. Operate a power circular band saw
6. Service the air compressor
7. Use a service tool for drilling holes in steel
8. Hang farm gates
9. Operate a field mower knife
10. Adjust tractor brakes
11. Look at a test power glider
12. Lubricate front wheel bearings
13. Remove points of an automobile code number
14. Hitch plows for vertical and horizontal corrections
15. Operate an outboard motor
16. Throat galvanized iron pipe
17. Apply paste to working a pulley
18. Adjust carburetor on a gas engine
19. Build concrete forms
20. Use a sheet of equipment according to manufacturer's design
21. Clean and replace spark plugs
22. Solder wire wires firmly
23. Finish or finish mowers
24. Build concrete forms
25. Use a service tool for drilling holes in steel
26. Operate a field mower knife
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Farm Machinery Sales and Service Business

If a teacher is preparing in a single class students who plan to enter farming and some who are preparing for farm machinery sales and service, how many mechanical skills or competencies can be teach that will fit both groups of students preparing for farming, and will fill the needs of those among the top half of skills needed by salers people and 24 others needed by skilled workers in the farm machinery sales and service business. Of them, 19 skills are applicable to all three groups.

Farm Supplies and Equipment

If a teacher is interested in preparing students for jobs in the farm supplies and equipment business, he will find that the top 50 skills needed by farmers, salesmen, 26 of the 50 skills are among the top half needed by sales people and 29 among the top half needed by skilled workers. And, of the 17 skills needed by farmers are needed by both salesmen and skilled workers, 16 of the top that farmers, 17 of the top 50 skills needed by farmers. And, of the 17 skills needed by farmers are needed by both salesmen and skilled workers. And, of the 17 skills needed by farmers are needed by both salesmen and skilled workers.

Salooners and Skilled Workers

If one considers the matter in terms of function rather than business, i.e., salooners for both businesses and skilled workers for both, he finds that the top 50 skills needed by farmers, salesmen, 26 of the 50 skills are among the top 50 needed by sales people and 26 of 29 among salesmen preparing for both types of work. It is clear that in both activities salesmen need 17 of the same top 50 skills needed by farmers.

Conclusion

As expected, not all of the skills needed by salooners and skilled workers in the two off-farm agricultural occupations and service businesses and salooners and service businesses and skilled workers are the same as those needed in both activities. However, it is apparent that there is a substantial number of skills that farmers needed that are also needed by sales people in these businesses. By careful planning, the teacher can teach in a single class a group of methods of mechanical skills needed by students preparing for farming and these two off-farm agricultural occupations and service businesses. However, it is anticipated that different skills can be minimized.
One of the lectures of the 1967 Ohio FFA Convention was on "agricultural economics." Dr. Gary Spry, left, teacher of vocational agriculture at Zanesville High School, presented a program that was well-received by the audience. The program focused on the need for better teacher training in agriculture, a topic that is crucial for the future of the profession.

Stories in Pictures

GILBERT S. GUILER
OHIO STATE UNIVERSITY

Warren Welser, retired state supervisor of Vocational Agriculture, was presented with his first FFA jacket at the 1967 Ohio FFA Convention.

The farmers during the next 50 years will need to have a greater knowledge of agricultural mechanics and technology than before. Bobby Anderson, teacher of vocational agriculture at Racine, Ohio, had his farmers enrolled in an agricultural mechanics welding class.

Featuring—Our Professional Organizations